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OPNAV INSTRUCTION 5100.19D VOLUME I CHANGE TRANSMITTAL 1

From: Chief of Naval Operations

Subj: NAVY OCCUPATIONAL SAFETY AND HEALTH (NAVOSH) PROGRAM MANUAL FOR
FORCES AFLOAT, VOLUME I

Encl: (1) Revised chapter A6 and appendix A6-D, A6-K, A6-M and A6-N
(2) Revised pages 4, A4-1, A4-A-6, A6-A-5, A6-B-1, A6-E-1 through
A6-E-4, A6-E-6, A6-F-1, A6-G-1, A6-G-2, A6-I-1, A6-I-2, A6-J-1,
A6-J-3, A6-L-1 and A6-O-1, B1-4, B2-1 through B2-7, B3-2, B3-5,
B3-7 through B3-11, B6-17, B7-1, B7-4, B9-1, B9-2, B9-4, and
B9-6

1. Purpose. To update and clarify occupational safety and health guidance for afloat forces.

2. Summary of changes. Changes to this volume clarify and update mishap reporting requirements, mishap witness statements, and points of contact for mishaps. All chapter A6 appendices with message formats have been updated to reflect organizational realignments and new points of contact. Changes to the heat stress program include incorporation of Automated Heat Stress System (AHSS) procedures. Recent changes and revisions to the Submarine Hazardous Material Inventory Management System (SHIMS) and the Submarine Material Control List (SMCL) have been incorporated into chapter B3. The points of contact for the radiation safety program have been updated. All paragraphs with changes are annotated to indicate revisions.

3. Availability. This change transmittal will be incorporated into the unclassified compact disk published by Defense Automated Printing (DAPS) Philadelphia. It may also be downloaded at <http://neds.nebt.dap.mil> and <http://www.navosh.net>.

4. Action. Remove volume I chapter A6, appendices A6-D, A6-K, A6-M, and A6-N and pages 4, A4-1, A4-A-6, A6-A-5, A6-B-1, A6-E-1 through A6-E-4, A6-E-6, A6-F-1, A6-G-1, A6-G-2, A6-I-1, A6-I-2, A6-J-1, A6-J-3, A6-L-1 and A6-O-1, B1-4, B2-1 through B2-7, B3-2, B3-5, B3-7 through B3-11, B6-17, B7-1, B7-4, B9-1, B9-2, B9-4, B9-6, and replace with enclosure 1 of this change transmittal.

A handwritten signature in black ink, appearing to read "L.C. Baucum".

L.C. BAUCOM
By direction

Distribution
(Same as basic)

CHAPTER A6

MISHAP INVESTIGATION AND REPORTING

A0601. DISCUSSION

a. Comprehensive, accurate mishap investigation is essential to the success of the Naval Safety Program. The reports required by this chapter are separate and independent of any investigative report required by the Manual of the Judge Advocate General (JAGMAN), reference A6-1. Mishap investigation reports (MIR) require answers to the questions: who, what, where, when, and why; and require damage assessments and a description of the effectiveness of measures used to limit further damage after the mishap has occurred. The entire mishap investigation effort is focused on preventing future mishaps.

b. This chapter applies to:

(1) Commissioned, U.S. Navy ships and their embarked equipment, boats, and landing craft, floating dry docks, or leased boats. (R)

(2) Pre-commissioned, U.S. Navy ships and their embarked equipment, boats, and landing craft, or leased boats beginning when the ship gets underway for Acceptance Trials.

(3) USNS ships manned by Federal civilian mariners assigned to ships in the Military Sealift Command (MSC).

(4) All on-duty diving mishaps.

NOTE:

Reference A6-2 contains guidance and administrative procedures for use by MSC ships and assigned civil service mariners and military detachment personnel.

c. Shipboard mishap investigation and reporting procedures in this chapter apply to mishaps resulting in:

(1) Damage to the ships and the ships' embarked equipment and craft listed above at all times, both underway and moored.

(2) Death or injury to all personnel (including embarked personnel) aboard ships or craft listed above while underway.

(3) Death or injury to ship's or embarked craft's military and Federal civilian mariner crew members (permanent or under temporary orders) when moored and when on-duty ashore.

d. Mishap Reporting Requirements

(1) Reportable Afloat Mishaps

(a) Class A Mishap. Total cost of reportable damage is \$1,000,000 or more; or any injury or work-related illness resulting in death or permanent total disability.

(b) Class B Mishap. The total cost of reportable property damage is \$200,000 or more, but less than \$1,000,000; an injury or work-related illness resulting in permanent partial disability; or a mishap resulting in the hospitalization of three or more people.

R) (c) Class C Mishap. The resulting total cost of reportable property damage is \$20,000 or more, but less than \$200,000; or an injury or disability preventing personnel from performing regularly scheduled duty for 5 days (1 day for embarked Marines) or more after 2359 on the day of injury or onset of illness.

(d) Afloat Special Case Mishap. The following special case afloat mishaps require the submission of an MR:

1. All cases of electric shock. Include the voltage in the report.

2. All cases of grounding, collision and flooding.

3. All fires.

4. All cases of hazardous material, chemical or toxic exposure requiring medical attention.

5. All mishaps involving explosives, oxidizers, incendiaries, explosive systems or chemical warfare agents. Mishaps include detonation, accidental launch, malfunction, dangerous defect, improper handling, damage to a launching device, weapon impact off range, or other unusual or unexpected weapons-related occurrence.

6. All diving cases involving central nervous system (CNS) oxygen toxicity, pulmonary over inflation syndrome (POIS) or hyperbaric treatment.

7. All cases of back injury resulting from a mishap requiring medical attention.

(2) Mishaps not reportable by this instruction:

(a) Mishaps involving nuclear weapons, nuclear propulsion plants, or radioactive materials involved in these systems. However, mishaps associated with the secondary side of the ship's nuclear propulsion plant or non-nuclear components are reportable.

(b) Damage or injury by direct action of an enemy or hostile force. This does not include suspected cases of friendly fire.

(c) Malfunction or failure of parts due to normal wear and tear, if the malfunction or failure is the only damage. The only necessary corrective action is to replace or repair the broken or failed part. (Note: Any collateral damage or injury caused by normal wear and tear is reportable.)

(d) Injuries associated with non-occupational diseases or chronic medical conditions, when the disease itself, not the injury, is the cause of the lost time.

(e) Suicide, attempted suicide, homicide, or intentionally self-inflicted injuries.

(f) Injuries resulting from altercations, attack, or assault, unless they are incurred in the performance of official duties when an attack or assault would not be a felony.

(g) Injuries sustained before entry into the military service, or civilian employment, unless specifically aggravated by current tenure of service.

(h) Hospitalization for treatment where the patient is retained beyond the day of admission solely for administrative reasons.

(i) Hospitalization for observation or administrative reasons not related to the immediate injury or occupational illness.

(j) Injuries resulting from:

1. Pre-existing musculoskeletal disorders.

2. Minimum stress and strain (simple, natural, nonviolent body positions or actions as in dressing, sleeping, coughing, or sneezing).

(k) Injuries or fatalities to anyone eluding or escaping from military or civilian custody or arrest.

(l) Death due to natural causes unrelated to the work environment.

(m) Intentional or expected damage to Department of Defense (DoD) equipment or property during authorized testing or combat training, including missile and ordnance firing.

(n) Foreign object damage (FOD) to gas turbine engines discovered during scheduled engine disassembly or bore-scope inspection.

(o) Injury or property damage resulting from vandalism, riots, civil disorders, sabotage, terrorist activities, or criminal acts, such as arson.

(p) Adverse bodily reactions resulting directly from the use of drugs under the direction of competent medical authority.

(q) Death or injury resulting solely from illegal use of drugs or other substances.

(r) Normal, residual damage as a result of a missile launch.

(3) Unless underway, mishaps involving non-embarked military and Federal civilian personnel assigned to a shore unit identification code (UIC) shall be investigated and reported per references A6-3 and A6-4. Other civilians, dependents, or foreign personnel are not reportable under this chapter.

e. Concept of Privilege. Military and Federal courts recognize that information given under the promise of confidentiality is protected from release under executive privilege. Concept of privilege is explained in detail in appendix A6-A.

A0602. RESPONSIBILITIES

a. Deputy Chief of Naval Operations (Fleet Readiness and Logistics) (N4) shall:

(1) Serve as the central Navy office for ensuring accomplishment of ammunition, explosives, and chemical agents and systems mishap reporting, and as the point of contact between the Department of Defense Explosives Safety Board and U.S. Navy activities.

(2) Modify NAVOSH policies and guidance as a result of lessons learned from mishap investigations.

b. Deputy Chief of Naval Operations (Warfare Requirements and Programs) (N7) shall direct and supervise mishap investigation and reporting training for afloat primary and collateral duty safety officers.

R) (1) Director, Surface Warfare Division (N76) is responsible for the safe operation of assigned surface ships and support craft, and ensuring training in mishap investigation and reporting is provided for primary and collateral duty safety officers.

R) (2) Director, Submarine Warfare Division (N77) is responsible for the safe operation of submarines, assigned surface ships, deep submergence systems, support craft, and diving operations; and ensuring training in mishap investigation and reporting is provided for primary and collateral duty safety officers.

R) (3) Director, Air Warfare Division (N78) is responsible for the safe operation of assigned surface ships and support craft; and ensuring training in mishap investigation and reporting is provided for primary and collateral duty safety officers.

c. Systems Commanders shall:

(1) Assist mishap investigators in the investigative process.

(2) Respond to the recommendations and corrective actions.

(3) Issue proper documentation to correct hazardous conditions.

(4) Review and analyze Mishap Investigation Report's (MIRs) when included in the endorsement chain.

d. COMNAVSAFECEN shall:

(1) Periodically review this chapter and make interim changes with concurrence of CNO (N45) for publication. As CNO (N09F), COMNAVSAFECEN retains responsibility for mishap report control symbols and making necessary changes to mishap reporting formats to ensure the data collected satisfy the Navy's safety information requirements.

(2) Contact appropriate fleet and type commander(s) upon learning about a possible Class A or other afloat mishaps to remind them of the investigation requirements and the availability of mishap investigation advisors.

(3) Provide a qualified advisor to Mishap Investigation Boards (MIBs) for all afloat Class A mishaps. An advisor also may be provided for other than Class A mishaps upon request.

(4) Coordinate, with the Commandant of the Marine Corps, the investigation of mishaps involving embarked Marines and Marine Corps equipment when embarked in U.S. Navy ships and in their landing craft (up to the high water mark during amphibious or inshore warfare training operations).

(5) Take custody of all relevant evidence (whether referenced in the MIR or not).

(6) Make available, upon request, any evidence which is not privileged to:

(a) MIR endorsers.

(b) Individuals conducting a concurrent investigation under proper regulatory authority of any agency or department of the government of the United States or by attorneys representing the interests of the United States in any litigation related to the incident which is the subject of the mishap investigation.

(7) Make available, upon request, any evidence which is privileged (As defined in appendix A6-A) to MIR endorsers.

(8) Conduct the final review, analysis and endorsement of MIRs within 14 days of receipt. Hard copies of the MIRs, endorsements and evidence shall be retained for 5 years. Electronic copies shall be retained indefinitely.

(9) Ensure prompt distribution of sanitized MIRs and MIREs to applicable fleet commands. (R)

(10) When beneficial, ensure prompt distribution of lessons learned based on the final MIREs. (R)

(11) Monitor the completion of corrective action resulting from an MIR.

(12) Maintain a centralized database for trend analysis and lessons learned.

(13) Sanitize MRs, MIRs, and endorsements prior to distribution.

e. Fleet Commanders in Chief; Numbered Fleet Commanders; and Commander Military Sea lift Command shall:

(1) Ensure subordinate commands comply with current CNO safety and mishap prevention and injury reporting requirements.

(2) Serve as the appointing authority for mishaps involving more than one subordinate type commander and provide the senior member with an endorsement chain. Submit message using sample format in appendix A6-B.

(3) Review and endorse the MIR for mishaps involving more than one type commander within 14 days of receipt.

f. Type Commanders, Commander Naval Special Warfare Command, Commander Mine Warfare Command, and Commanders MSC Atlantic and Pacific shall:

(1) Direct the investigation of any Class B or other mishaps or near mishaps that may reveal vital safety information if investigated by a MIB.

(2) Incorporate mishap prevention, investigation, and reporting into the training requirements of type commander training manuals, master training plans, or training guides.

(3) Serve as the appointing authority for mishaps involving more than one subordinate squadron or group commander and provide the senior member with the required endorsers. Submit message to the above and COMNAVSAFECEN.

(4) Coordinate with COMNAVSAFECEN, COMNAVSEASYSKOM, and other technical agencies in providing assistance to the mishap board, when requested.

(5) Provide relevant safety information from the MIR to COMNAVSEASYSKOM, or other technical agencies, when appropriate; unless otherwise restricted.

(6) Request any waivers or modifications to the investigation and reporting requirements from CNO (N8).

(7) Ensure all appropriate organizations are apprised of hazards identified during a mishap investigation.

(8) Collect and disseminate best business practice (lessons learned) and safety-related information. Include COMNAVSAFECEN NORFOLK VA//30/054// as an information addressee on any lessons learned issued.

(9) Review and endorse the MIR within 14 day of receipt.

R) g. Group and/or Squadron Commanders shall:

(1) Ensure subordinate commands incorporate mishap prevention, investigation, and reporting training, as directed by the type commander, into the group and squadron training requirements.

(2) Ensure commanding officers are apprised of hazards identified by a mishap investigation.

(3) Review and endorse the MIR within 14 days of receipt.

h. ISICs, including Commanding Officers of Assault Craft Units (ACUs) Five and Four shall:

(1) Serve as the appointing authority for MIBs, unless otherwise directed.

(2) Review and endorse the MIR within 14 days of receipt

i. The appointing authority shall:

(1) Appoint, in writing, the senior member of MIBs.

(2) Appoint, the remaining members of MIBs.

(3) Ensure no one directly involved in a mishap, or having personal interest that might conflict with his/her objective and impartial performance of duties, serves as a member of MIBs.

(4) Provide the endorsement change via message to all endorsers with a copy to COMNAVSAFECEN.

j. Commanding Officers, Masters, Officers in Charge, and Craftmasters shall:

(1) Protect the mishap site or damaged area from loss or further damage. Operational requirements or damage control measures may require disturbing the scene of the mishap before the MIB arrives. In such cases, make every reasonable effort to:

(a) Make an accurate plot of the scene.

(b) Take photographs or videotape recordings of the wreckage, its distribution, and the surrounding area.

(c) Make a diagram of any underwater damage.

(2) Direct the investigation and report of Class B mishaps, Class C mishaps, and all afloat special case mishaps not investigated by a MIB per A0605. Near-mishaps may be investigated and reported.

(3) Ensure the COMNAVSAFECEN NORFOLK VA//30//00// is an information addressee on any OPREP-3 or UNIT SITREP messages submitted per reference A6-5 and A6-6. Include COMNAVSAFECEN NORFOLK VA//40//30//and CMC WASHINGTON DC//SD// for all mishaps involving embarked Marines and Marine Corps equipment.

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(4) Ensure personnel assigned to conduct internal mishap investigations, assigned as a member of a MIB, or assigned to assist the board are excluded from assignment to a JAG investigation of the same incident conducted per reference A6-1. Personnel currently assigned to full-time safety positions shall not be appointed as a member of any legal investigation board.

(5) Coordinate, with the commanding officer or officer in charge of embarked units and detachments, the investigation of mishaps involving Marines and Marine Corps equipment when embarked in U.S. Navy ships and on landing crafts (up to the high water mark during amphibious or inshore warfare training operations).

(6) Direct the collection of any transitory medical evidence, such as specimens to determine blood alcohol and drug levels, pertinent to the mishap investigation.

(7) Direct the autopsy and toxicological screen of all personnel killed in the mishap as authorized by Article 17-2(1), Manual of the Medical Department (NAVMED P-5065).

(8) Provide administrative and logistic support for the MIB. Give the senior member authority to release messages specifically related to the mishap investigation and the MIR.

(9) Review and endorse the MIR within 7 days of receipt.

k. Ship's Safety Officer and Assault Craft Unit (ACU) Safety Officers shall:

(1) Assist the commanding officer in conducting mishap investigations for all mishaps except those investigated by a MIB.

(2) Coordinate with safety officers from embarked units and detachments on the investigation, reporting, and correction of the causes of afloat mishaps.

(3) Ensure ship-wide dissemination of safety information and lessons learned resulting from mishap investigations.

(4) The safety officer shall maintain a complete file of MRs required by higher authority, internal Mishap/Near Mishap Reports, and Injury Reports. Such reports will be retained for 5 years and then destroyed.

l. Department Heads, Division Officers, and Work Center Supervisors shall notify the safety officer of all mishaps and near mishaps. Appendix A6-H can be used for an internal report.

m. The command's Safety Council and Enlisted Safety Committee shall evaluate mishap and injury reports and logs as part of the command safety program evaluation. This evaluation should ensure mishap investigation and reporting procedure aid in determining causes, trends, places and groups to target for specific training topics to prevent recurrence.

A0603. MISHAP INVESTIGATION BOARD

The immediate superior in command (ISIC), or other higher authority, shall appoint a mishap investigation board (MIB) for all afloat Class A mishaps. All MIBs shall consist of a senior member and at least two additional members. The board's purpose is to investigate the mishap to determine the causes. The board then prepares a Mishap Investigation Report (MIR) with its findings, conclusions, or recommendations.

R)

a. Appointment of a Mishap Investigation Board:

(1) When a serious shipboard mishap occurs, the commanding officer or craftmaster shall notify Commander, Naval Safety Center (COMNAVSAFECEN) and the chain of command. This is accomplished through an OPREP-3 or UNIT SITREP message submitted per references A6-5 and A6-6.

R)

(2) Upon notification of a potential Class A mishap, the fleet or type commander shall send a message to the appointing authority providing the minimum endorsement chain including Naval Safety Center as an information addressee. (Appendix A6-B provides the sample message format).

(3) MIB members are appointed, in writing. Unless a senior in the chain of command assumes the capacity as appointing authority, the ISIC is normally the appointing authority. For Military Sealift Command (MSC), the appointing authority is Commander, Military Sealift Command, (PM1 for Naval Fleet Auxiliary Force (NFAF) civilian mariner manned ships, PM2 for special mission civilian mariner manned ships, and PM3 for USNS Kaiser). (Appendix A6-C provides the sample letter format).

b. Members of the MIB:

(1) The senior member shall be an unrestricted line officer in the U.S. Navy or U.S. Marine Corps, or a senior official in MSC. The senior member should be senior to the commanding officer of the command involved in the mishap. If junior to the commanding officer, the senior member shall be from another command. In addition to the senior member, the appointing authority shall appoint a minimum of two commissioned officers to the MIB. If a Marine or U.S. Marine Corp equipment is involved in the mishap, the appointing authority should appoint a U.S. Marine Corps officer as a member of the MIB.

(2) In all cases involving death or injury, the appointing authority shall include a medical officer, or medical department representative for LCACs, as an additional member to the MIB. (A

c. Requirements of MIB Members

(1) The Senior Member shall:

(a) Convene and direct the mishap investigation.

(b) Request technical assistance for the investigation from the appointing authority or type commander, when required.

(c) Provide direction to MIB members on specific policies, procedures, and restrictions per appendix A6-D.

(d) Refer requests to COMNAVSAFECEN representative, if there are questions about releasability, for any physical evidence, summaries of witness' statements, logs, photographs, negatives, or tape recordings either by transfer or originals, if appropriate, or by making copies.

(e) Prepare and send the MIR within 30 days of convening to MIB.

(f) Transfer custody of all relevant documentary evidence, board members' personal notes, original copies of summaries of all statements, photographs and negatives, and tape recordings to COMNAVSAFECEN. Include an inventory itemizing all the evidence the board considered. Send a copy of the inventory to all endorsers.

(2) COMNAVSAFECEN Advisor

(a) COMNAVSAFECEN shall appoint a trained mishap investigation advisor for all afloat Class A mishaps and provide an advisor for other

mishaps when a trained investigator would be beneficial to the investigation. The advisor shall be present at the initial convening of the board, if logistically feasible.

(b) The advisor is not a member of the MIB, but serves to advise the board in investigation and reporting procedures.

(c) The senior member shall extend to the advisor unrestricted access to all evidence, summaries of witness' statements, and proceedings.

(d) The advisor may depart before the completion of the investigation, if the senior member and COMNAVSAFECEN agree.

(3) Technical Assistance

(a) The MIB may require the assistance of technical experts. Sources of technical assistance include, but are not limited to: COMNAVSAFECEN; Armed Forces Institute of Pathology; Navy Environmental and Preventive Medicine Units (NAVENPVNTMEDUs); COMNAVSEASYSCOM; Naval Coastal Systems Center (NAVCOASTSYSCEN); Naval Surface Warfare Center, Ship Systems Engineering Station (NSWC NAVSSES); naval shipyards; hospitals; aviation depots; and equipment technical representatives.

1. Request for Assistance. The appointing authority, the commanding officer of the ship involved, or the senior member may request assistance from local activities. Only the type commander, however, may request assistance when it involves distant activities, external agencies, or travel funding.

2. Advisory Nature of Technical Assistance. Assistance given to a board is advisory in nature. Technical or medical specialists (other than the assigned medical member) are not members of the board. Serious consideration should be given to the recommendations offered by technical or medical specialists, but the board is not obligated to accept them. Except for the COMNAVSAFECEN mishap investigation advisor, the senior member shall not give the specialists access to board deliberations or the contents of Part Bravo of the MIR.

(b) The senior member should contact the COMNAVSAFECEN (Code 30) if any questions or doubts arise during the mishap investigation.

(4) MIB members shall:

(a) Collect, organize, interpret, and protect all evidence.

(b) Ensure photographs and videotapes accurately depict the mishap scene, whether taken prior to or after arrival of the board.

1. Photographs staged by the MIB (planned or posed to illustrate a specific condition or situation) are privileged because of the deliberative process. Other photographs are not but may be protected from release under exemption b(6) of the Freedom of Information Act (FOIA).

2. All captions or markings placed on photographs suggesting the mishap board's deliberative process also are privileged.

3. Photographs of injuries or human remains that are not staged are not privileged, but may be exempt from disclosure under exemption b(6) of the Freedom of Information Act.

(c) Interpret logs, records, blueprints, schematics, and written procedures.

(d) Take oral statements from witnesses. Advise all witnesses in writing of the restricted uses of privileged testimony (The concept of privilege is explained in appendix A6-A).

(e) Reconstruct the sequence of events leading up to, and immediately following, the mishap.

(f) Not divulge, except during deliberations, any information or opinions of the board.

A0604. MISHAP INVESTIGATION REPORT (MIR), Report Symbol OPNAV 5102-7, Appendix A6-E

Formal investigations conducted by a designated MIB are required for all Class A afloat mishaps. The mishap investigation takes precedence over any other investigation of the same mishap, unless the investigation uncovers evidence of a criminal act. A sample message format for MIRs is contained in appendix A6-E.

a. Mishap Investigation Board Proceedings

(1) The ISIC and the commanding officer of the unit involved shall coordinate the time and location of the initial meeting of the MIB. The ISIC provides the convening date and location to the operational chain of command and COMNAVSAFECEN as soon as possible.

(2) The ISIC or commanding officer of the unit involved shall provide accommodations, local transportation, and administrative support. The senior member shall have authority to release messages specifically related to the mishap investigation and the MIR.

(3) The MIB shall conduct its investigation of a mishap separately from all other investigations. Members of the board shall not release information revealing the source of any physical evidence obtained as a result of privileged information nor any testimony given under the assurance of privilege. Despite those limitations, cooperation and access to nonprivileged physical evidence and witnesses among investigators is required.

NOTE:

Privilege/Non-Privilege is discussed throughout the rest of this chapter. Refer to Appendix A6-A

(4) The most frequent, concurrent investigation is the JAGMAN investigation. The U.S. Navy chain of command directs JAGMAN investigations for legal or administrative purposes.

(a) Members of a MIB shall neither participate in nor conduct a JAGMAN investigation of the same mishap.

(b) Except for physical evidence, the JAGMAN investigator shall not use any part of the mishap investigation.

(c) The senior member of the MIB shall coordinate the disposition of physical evidence and the restoration of the mishap scene with JAGMAN, and other investigators.

(d) If, during the investigation, an investigator discovers signs of a criminal act related to the mishap, the senior member immediately shall inform the appointing authority who shall confer with legal counsel and notify the Naval Criminal Investigative Service (NAVCRIMINVSER) together with COMNAVSAFECEN.

1. Nonprivileged evidence gathered by the MIB may be released to other investigators. The senior member shall not release information revealing the source of any physical evidence obtained as a result of privileged information, nor any testimony given under the assurance of privilege.

2. The senior member shall turn over all other nonprivileged physical evidence to the senior NAVCRIMINVSER agent.

3. The senior member may continue the mishap investigation, if directed by the appointing authority and approved by Office of the Judge Advocate General (OJAG). Valuable safety information may result from investigating a mishap that occurred subsequent to the criminal act.

4. According to the 1984 Memorandum of Understanding Between the Departments of Justice and Defense "Relating to the Investigation and Prosecution of Certain Crimes", where a criminal investigation or prosecution by DOJ is ongoing, a mishap investigation shall not be initiated nor proceed without prior coordination with, and concurrence from, appropriate Department of Justice (DOJ) investigative and prosecutive agencies.

b. Collection of Evidence

(1) MIB investigations involve various procedures relating to the collection of evidence. The Investigation Procedures Guide contained in appendix A6-D is a helpful tool providing in-depth guidance on the investigative process.

(2) Evidence may include:

(a) Witness statements. A witness statement is an oral account of the circumstances surrounding a mishap. The oral statement is not obtained under oath or in writing and may include opinions, secondhand information, and speculation about the mishap. Some witness statements provided to the board are privileged information. The MIB shall question witnesses, but will not require signed statements or summaries. Results of the interview(s) shall be summarized and authenticated with a signature of a MIB member.

1. JAGMAN and other investigators may make their witnesses' statements available to the board. The MIB can glean information from the statements, but should re-interview appropriate witnesses.

2. Advice to Witness forms are provided as attachment A6-A-1 and A6-A-2.

(b) Medical materials. Medical materials the board may use as evidence include laboratory results, medical records, hospital admission forms, diagrams of wounds, psychological profiles, autopsy reports, or physician's written opinions.

1. The medical department representative (MDR) shall collect the initial, particularly transient, medical evidence as directed by the commanding officer or higher authority. The transient evidence includes specimens to determine blood alcohol and drug levels.

2. Medical factors, such as physiological, social, behavioral, and psychological, may provide insight into the cause of the mishap.

3. The medical officer, when assigned, shall coordinate the analysis of medical evidence with all other aspects of the investigation.

(c) Wreckage or damaged equipment. Wreckage or damaged equipment is physical proof of a mishap. The physical proof includes the area or equipment directly affected by the mishap and the surrounding damaged areas.

1. Once a MIB is convened, only the senior member can authorize the disturbance of damaged areas or wreckage.

2. To determine the cost of repair or replacement of all DoD property involved in the mishap, use actual costs of materials or estimates provided by the repair activity. If necessary, use estimates based on the actual cost of materials and \$18 for each hour of organizational or intermediate level labor or \$60 for each hour of depot level labor. When prepared in written form, all estimates shall conspicuously state: "This estimate is prepared solely for the purposes of chapter A6 of OPNAVINST 5100.19D. It is not intended to reflect, in any way, the extent of any party's damages or liability for purposes of administrative claims or litigation." (R)

3. In all matters related, in any way, to damage to civilian or foreign ships on navigable water, to damage to any property or cargo on board such ships, or to injuries of persons on board such ships, refer to chapter XII of reference A6-1 and/or contact the Office of the Judge Advocate General (OJAG), Admiralty Division (Code 31).

c. Mishap Investigation Board Analysis of Findings. The board's analysis of findings are an assessment as to what caused the mishap. This will fall under four categories: human, procedural, equipment/material, and design factors. These are delineated with examples in appendix A6-E. In addition, the board will list those causes considered initially, but were determined invalid as a result of the investigation. (R)

d. Mishap Investigation Report Elements

(1) Appendix A6-E contains the MIR reporting format.

(2) The MIR has two parts:

(a) Part Alpha - Contains nonprivileged information that, generally, is releasable to the public. However, the release of certain, selected portions of Part Alpha, such as personal information covered by the Freedom of Information and Privacy Acts, may be prohibited. Part Alpha only includes mishap facts. Commander, Naval Safety Center (COMNAVSAFECEN) may release Part Alpha information to the general public, except for information protected under exemption b(6) of the Freedom of Information Act.

(b) Part Bravo - Contains privileged information that is not releasable to the public. The SOLE USE is for safety purposes. Part Bravo includes a summary of the evidence collected, the sequence of events of the mishap, and the opinions and recommendations (and recommended action agency) of the board. COMNAVSAFECEN shall not release this information to the general public. Information pertaining to the release of privileged information is contained in appendix A6-A.

e. Writing and Sending the MIR

(1) The senior member shall prepare and send the MIR by naval message within 30 days of the convening of the MIB.

(a) If the MIB will not meet the 30-day deadline, the senior member shall request an extension from the appointing authority.

(b) The appointing authority shall advise the type commander and COMNAVSAFECEN of any extensions.

f. Classification and Handling of MIRs

(1) MIRs normally are unclassified. The senior member may submit a separate classified addendum(s) for an otherwise unclassified MIR.

(2) MIRs contain privileged information and require handling per appendix A6-D. All recipients and endorsers of a MIR shall prevent its uncontrolled release, which could result in unauthorized disclosure. Configure electronic message dissemination systems to ensure only those requiring knowledge of their content, for safety purposes, are included in the distribution parameters.

A) (3) Endorsements shall not be filed under any individual's name or other personal identifier; nor shall information be retrievable from MIR files by an individual's name or personal identifier. Failure to follow these guidelines may result in the inadvertent disclosure of privileged information in response to a Privacy Act request.

g. Distribution of MIRs

(1) The senior member should send the MIR after returning to his or her permanent command. However, there may be occasions when the MIR must be sent from the ship on which the mishap occurred. In this case the senior member shall ensure it is clear to all addressees that the MIR is from the senior member and not the "mishap" ship, such as using an office code following the ship's plain language address (PLA), using the appointing authority's PLA with an office code (//SENIOR-MEMBER//), or as a detachment of the appointing authority.

R) (2) Appendix A6-K contains the addressees for distribution of MIRs.

(3) Distribution of MIRs, together with their endorsements, outside the commands specified in this chapter or authorized by CNO (N09F), is strictly prohibited.

(4) Use Standard Subject Identification Code (SSIC) 05102 on all MIRs and endorsements so receiving commands can limit internal distribution to those requiring the report for safety purposes.

h. MIR Endorsements

(1) MIR endorsements are privileged and shall be made by message in the format of attachment A6-G. Since MIR endorsements become a part of the MIR and fall under the concept of privileged information, endorsers shall provide complete and open information, opinions, and recommendations. (R)

(a) If an endorser agrees with the analysis of findings and recommendations in the MIR, as modified by previous endorsements, then a brief statement of concurrence is sufficient. (R)

(b) To disagree, endorsers shall list each probable cause, rejected probable cause, and recommendation and recommended action agency from the MIR or previous endorsements and state their reason for disagreement. If the MIR, or a previous endorser, recommended action by the current endorser, state the action taken to date on that recommendation. (R)

(c) Through analysis of the MIR and previous endorsements, an endorser may include additional causes and recommendations or changes to the action agency for previous recommendations. Subsequent endorsers shall state their agreement or disagreement for each additional probable cause and recommendation. (R)

(d) Endorsements shall not be filed under any individual's name or other personal identifier; nor shall information be retrievable from MIR files by an individual's name or other personal identifier. Failure to follow these guidelines may result in the inadvertent disclosure of privileged information in response to a Privacy Act request.

(2) Endorsers may request any evidence from COMNAVSAFECEN. The endorser shall return the material to COMNAVSAFECEN for retention and disposition.

(3) Endorsement required deadlines are:

(a) The commanding officer of the ship involved in the mishap shall endorse the MIR within 7 days of receipt.

(b) The ISIC of the ship involved in the mishap shall endorse the MIR within 14 days of receipt of the previous endorsement.

(c) The type commander shall endorse the report within 14 days of receipt of the previous endorsement.

(d) Commander, Naval Sea Systems Command (COMNAVSEASYS COM, PMS-377) shall endorse all MIRs involving LCACs. COMNAVSEASYS COM (PMS-377) shall endorse the report within 14 days of receipt of the previous endorsement.

(e) The Commandant of the Marine Corps (CMC WASHINGTON DC//SD//) and other designated subordinate U.S. Marine Corps commands shall endorse all MIRs involving Marines and U.S. Marine Corps equipment. CMC WASHINGTON DC//SD// shall endorse the report within 14 days of receipt of the previous endorsement.

(f) Other system commanders (e.g., COMNAVSEASYSKOM or COMNAVSAIRSYSKOM code(s)), if requested by the senior member of the MIB or any endorser, shall endorse the report within 14 days of receipt of the previous endorsement.

(g) Fleet commander in chief or numbered fleet commander (for mishaps involving more than one type commander) shall endorse the MIR within 14 days of receipt of the previous request.

(h) COMNAVSAFECEN shall prepare their endorsement and send a copy to all endorsers within 14 days of receipt of the previous endorsement.

1. Endorsers who cannot meet the above deadlines, shall request an extension from the type commander by message. The request shall describe specific reasons for the extension.

2. The fleet commander in chief or type commander can direct other commands (for example, numbered fleet commanders and administrative group or squadron commanders) to endorse the report, if desired. If directed, those commands shall send the endorsement within 14 days of receipt of the previous endorsement.

3. If the commanding officer of a ship involved in a mishap detaches from the command before writing the endorsement, the type commander may provide him or her with a copy of the MIR and give him or her the opportunity to write a statement about the contents of the MIR. The detached commanding officer shall send the statement by naval message to the type commander within 14 days of receiving the MIR. Based on the contents of the statement, the type commander will either:

(i) Readdress the statement to all endorsers of the MIR for their consideration.

(j) Provide the statement to COMNAVSAFECEN only for inclusion with the mishap file.

i. Dissemination of Safety Information as a Result of the MIR.

COMNAVSAFECEN and the type commander, when appropriate, shall extract safety information and issue "better business practices" but shall avoid the disclosure of the source of privileged or personal information. When an MIR or MIRE contains essential safety information based on privileged or personal information, and the information has not been adequately distributed to those in need of the information, COMNAVSAFECEN or the type commander shall take one or more of the following actions (listed in order of preference).

(1) Readdress. Readdress the entire MIR or MIRE. COMNAVSAFECEN shall take this action immediately upon receipt of an MIR to ensure all fleet and type commanders and other appropriate senior Navy commanders are aware of the mishap investigation board's analysis of the mishap. (COMNAVSAFECEN only)

(2) Expunge. Scrub or sanitize identifying information from the report that could link the MIR or MIRE with an individual, organization, or mishap, and disseminate the essential safety information remaining in the report. When appropriate, COMNAVSAFECEN shall take this action as soon as practical upon receipt of an MIR to ensure appropriate afloat commanding officers are aware of the details of the mishap. (COMNAVSAFECEN only) (R)

(3) Extract. Extract the essential safety information from the report or endorsement and disseminate it appropriately. (COMNAVSAFECEN or type commander) (R)

(4) If the MIR or MIRE provides insightful lessons which would be of value to the fleet, COMNAVSAFECEN will, as soon as possible, develop a message reflecting "better business practices," (lessons learned). (R)

j. Release of Mishap Information. The release of MIR or MIRE information shall be as specified in appendix A6-A unless otherwise authorized by CNO (N09F). (R)

k. Retention and Disposition of Records

(1) Once the senior member forwards the MIR, the senior member shall transfer custody of all relevant documentary evidence to COMNAVSAFECEN. The senior member shall send an inventory itemizing all the evidence the board considered to COMNAVSAFECEN and all endorsers.

(a) The inventory message shall be divided into the following four parts:

1. Unclassified, nonprivileged evidence.
2. Unclassified, privileged evidence.
3. Classified, nonprivileged evidence.
4. Unclassified, nonprivileged documents not sent to COMNAVSAFECEN.

(2) Endorsers and other authorized recipients may retain custody of the MIR and its endorsements for 5 years from the date of the mishap, at which time they shall be destroyed.

(3) COMNAVSAFECEN shall:

(a) Turn over material (other than privileged information) to the JAG investigators for retention, if requested.

(b) Retain evidence requested by the type commander for use in "better business practices."

(c) Send originals of any deck or engineering logs, if received, to CNO as required by reference A6-6. (R)

(d) Send original service record (USN) or service record book (USMC) entries, if received, for missing or killed naval personnel per NAVMILPERS Manual (Section 5030140) (NOTAL), or USMC Individual Record/Administration Manual, MCO P1070.12K (NOTAL).

(e) In any case where the United States or any other party has commenced litigation, no evidence shall be destroyed without permission of the attorney representing the interests of the United States in the litigation.

(f) Retain custody of hard copies of MIRs, their endorsements and evidence for 5 years, and electronic copies indefinitely. Unless otherwise directed by the JAG, dispose of or destroy summaries of witness' statements, copies of logs, and other records and evidence, including privileged material.

A0605. Mishap Report (MR), Report Symbol OPNAV 5102-6, Appendix A6-I.

a. The analysis of findings in this report are an assessment as to what caused the mishap. This will fall under four categories: human, procedural, equipment/material and design factors. These are delineated with examples in appendix A6-I. This message report is submitted to the Naval Safety Center within 30 days by the command in the event of:

(1) Class B mishaps occurring on board ship that are not investigated by an MIB and reported by MIR.

(2) Reportable Class C mishaps occurring on board ship, to the ship's (and embarked unit's and detachment's) on-duty personnel ashore, or involving damage to the ship's equipment located ashore.

(3) Afloat special case mishaps occurring on board ship or to the ship's (and embarked units and detachments) on-duty personnel ashore.

(4) Class A or B mishaps occurring to the ship's (and embarked unit's and detachment's) on-duty personnel while ashore or involving damage to the ship's equipment located ashore.

NOTE:

Class A mishaps ashore are reported under the guidelines prescribed in reference A6-3.

NOTE:

Commanding officers are encouraged to submit a MR with lessons learned for any otherwise non-reportable mishap where other ships could benefit from reading about a minor mishap or near mishap or if a design or material defect caused a mishap and should be highlighted.

b. Preparing MRs

(1) Appendix A6-I contains the MR reporting format.

(2) Reference any CASREPs, OPREP-3s, or UNIT SITREP messages submitted and any previous mishap reports in the MR.

(3) The MR contains privileged information but shall not include the sources of any information.

(4) If investigating personnel determine there is a need to obtain privileged witness information that may reveal valuable safety information, they shall advise the commanding officer, who shall then ascertain the need for a MIB and inform the ISIC.

(5) Omit any reference to legal or administrative action, or other performance-related administrative action in an MR to preclude association with disciplinary action.

(6) Provide as much information as is available. When the information available is not sufficient to complete a comprehensive MR within 30 days, submit the remaining details, when known.

c. Classification and Handling of MRs

(1) MRs are normally unclassified. If the commanding officer cannot complete an unclassified report, a separate classified addendum for an otherwise unclassified MR may be submitted.

(2) MRs contain personal information and other sensitive data protected by the Freedom of Information and Privacy Acts, as discussed in appendix A6-A.

Users shall protect MRs from unauthorized disclosure. MRs contain privileged information but shall not include the sources of any information.

(3) Recipients shall handle MRs as follows:

(a) MRs contain personal information protected by the Freedom of Information and Privacy Acts, and privileged information, and therefore require careful handling. Information pertaining to the Freedom of Information and Privacy Act is contained in appendix A6-A.

(b) Ensure MRs are distributed only to specific individuals requiring knowledge of their content.

(4) Mishap reports shall not be filed under any individual's name or other personal identifier; nor shall information be retrievable from MR files by an individual's name or other personal identifier. Failure to follow these guidelines may result in the inadvertent disclosure of privileged information in response to a Privacy Act request.

(A)

d. Distribution of MRs

(1) The commanding officer shall address MRs to:

(R)

(a) COMNAVSAFECEN NORFOLK VA//30/054//.

(b) Superiors in the chain of command, as directed.

(c) Any other command, as desired.

(d) Commander, Naval Sea Systems Command (PEO EXW WASHINGTON DC//PMS377//) and information to Naval Coastal Systems Center (NAVSURFWARCEN COASTSYSTA PANAMA CITY FL//A41//), CNO WASHINGTON DC//N76D/N766D//, and ACU FOUR and ACU FIVE for mishaps involving LCACs.

(R)

R) (e) COMNAVSAFCEN NORFOLK VA//40/30// and Commandant of the Marine Corps (CMC WASHINGTON DC//SD//) for mishaps involving embarked Marines and Marine Corps equipment.

(2) Direct questions regarding distribution of MRs to COMNAVSAFECEN or your chain of command.

e. Dissemination of Safety Information-see section A0604i(2), (3), (4) and j.

A0606. Explosive Mishaps and Conventional Ordnance Deficiency Reports (EMRs/CODRs), Report Symbol DD-FM&P (AR)1020(5102), Appendix A6-J

Class B and C severity Explosive Mishap Reports (EMRs) and Conventional Ordnance Deficiency Reports (CODRs) are defined by reference A6-4. Reports of Class A explosive mishaps occurring afloat are submitted by the mishap investigation board (MIB). Modify the MIR to include the information required by the sample Explosive Mishap Report in appendix A6-J. MIRs of Class A explosive mishaps are used for safety purposes only and contain privileged information. The release, distribution, and control of the reports is limited to prevent unauthorized disclosure of report contents.

a. Reportable Mishaps and Deficiencies

(1) Explosive Mishaps. Report the following afloat events using the format in appendix A6-J. Use "Explosive Mishap Report" in the subject line. If you want an engineering investigation, add the request to the subject line. (Use "Explosive Mishap Report/Engineering Investigation Request" as the subject). Also, include your request for the engineering investigation in Part I ECHO (narrative) of the message report.

(a) Detonation, Deflagration, Burning, or Firing. An unintentional or inadvertent initiation, explosion, or reaction of an explosive material, component, or system. Accidental discharge of all guns, including small arms.

(b) Inadvertent Launch. An unintentional launching of a weapon.

(c) Chemical Agent Release. Any unintentional or uncontrolled release of a chemical agent when:

1. Damage occurs to property from contamination or costs are incurred for decontamination.

2. Individuals exhibit physiological symptoms of agent exposure.

3. The quantity released to the atmosphere creates a serious potential for exposure.

(d) Propellant Fuels and Oxidizers. Leaking or spilled propellant fuels and oxidizers less OTTO II fuel.

(e) All ordnance impacting off-range.

(2) Conventional Ordnance Deficiencies. Report the following afloat events as conventional ordnance deficiencies using the format in attachment 1

to this appendix. Use "Conventional Ordnance Deficiency Report" in the subject line. If you want an engineering investigation, add the request to the subject line. (Use "Conventional Ordnance Deficiency Report/Engineering Investigation Request" as the subject). Also, include your request for the engineering investigation in Part I ECHO (narrative) of the message report.

(a) Malfunctions. The failure of conventional ordnance, explosives, ammunition, small arms, weapons, or weapon system components that come in contact with the ordnance, to function properly. (For example, failure to launch, dud weapons, and gun fails to cycle).

(b) Improper Handling. Ordnance handling incidents attributed to human error. Examples include misuse of equipment, failure to follow established procedures, and violation of safety precautions resulting in dropped or damaged ordnance. Other examples include human error during processing, assembling, testing, loading, storing, and transporting ordnance.

(c) Inadvertent Arming. The unintentional arming of an explosive component or weapon.

(d) Defective Weapons Support Equipment. Deficiencies involving any equipment or device used in the manufacture, test, assembly, handling, or transportation (skids, trailers, or similar equipment) of any explosive system.

(e) Observed Defect. A discovered defective weapon or weapon system component that comes in direct contact with the ordnance, small arms, weapons, conventional ordnance, explosives, and ammunition (for example: protruding primers, cracked grains, damaged or broken breech bolts, missile radomes, and advanced corrosion).

(f) Other

1. An event which, except for chance, would have been an explosive mishap.

2. Any failure or malfunction of, or damage to, a launch device or associated hardware and software when handling or otherwise manipulating dummy, exercise, or explosive material.

3. Unusual or unexpected occurrences, unnatural phenomena, unfavorable environments, or instances of equipment failure which may damage or affect safety of an explosive material or system. This includes hazards of electromagnetic radiation to ordnance (HERO) sensitive explosive systems exposed to radiation hazard (RADHAZ) environments.

4. The failure of a missile or explosive system to test, calibrate, or otherwise meet pre-loading or pre-launch requirements. (For example, the failure of built-in-test (BIT)).

5. Use of Explosive Ordnance Disposal (EOD) services involving military explosives for other than routine disposal of explosives.

6. OTTO II fuel spills.

(3) Exceptions

(a) OPNAVINST 8000.16A (The Naval Ordnance Maintenance Management Program (NOMMP) (NOTAL)). Report mishaps or deficiencies occurring during airborne weapon systems and equipment operations, including armament supporting equipment (any equipment used in loading or unloading an explosive system or launch device on an aircraft), per OPNAVINST 8000.16A.

R) (b) OPNAVINST 3100.6G [Special Incident Reporting (OPREP-3, Navy Blue and UNIT SITREP) Procedures] and CJCSM 3150.01 1999. Report nuclear weapons mishaps and incidents per OPNAVINST 3100.6G and JCS Publication 1-03.7.

(c) OPNAVINST 5102.1C (Mishap Investigation and Reporting). Report explosive mishaps and conventional ordnance deficiencies occurring ashore per OPNAVINST 5102.1C.

R) (d) SW02-AG-SAF-010 (Navy Transportation Safety Handbook for Ammunition, Explosives and Related Hazardous Material). Weapons and ordnance stations report explosive mishaps and conventional ordnance deficiencies occurring while the explosive material or system is in the custody of a common (commercial) carrier per OP 2165 Volume I and NAVSEA INST 8020.13B.

b. Post-Mishap and Deficiency Action

(1) The activity experiencing the mishap or deficiency shall:

(a) Stop using the item, lot, or batch involved pending guidance from higher authority.

(b) Start the reporting procedures.

(c) Accurately and quickly respond to requests for additional information.

(2) Depending on the severity of the explosive mishap or deficiency, other U.S. Navy commands and activities shall assist in identifying the actual cause and take steps to ensure that similar mishaps or deficiencies do not occur. For example:

(a) The mishap may require an MIR for a Class A mishap.

R) (b) Commanding Officer, Navy Ordnance Safety and Security Activity; Commander, Naval Air Systems Command; or Commandant, U.S. Marine Corps may designate all related explosive systems unserviceable, direct follow-up test and evaluation of various lots to identify defective hardware, or initiate procedural changes in the use of the weapons system.

R) (c) Commanding Officer, Naval Ammunition Logistics Center, Mechanicsburg, PA; shall support the above command decisions regarding disposition and use of defective or questionable parts by issuing a Notice of Ammunition Reclassification (NAR).

(d) Commander, Naval Safety Center shall enter all relevant unclassified information into a data repository.

c. Reporting Requirements

R)

(1) Appointing authorities shall require the investigation and reporting of all afloat Class A severity explosive mishaps occurring in their chain of command using the procedures in article A0604. The MIB shall submit an MIR in the format of appendix A6-E modified to include the information required by the sample Explosive Mishap Report in appendix A6-J.

(2) Commanding officers, officers in charge, and masters shall require the investigation and reporting of all Class B and C severity reportable explosive mishaps and reportable conventional ordnance deficiencies occurring within their command.

(a) Explosive Special Cases. When a report under this chapter is required solely as the result of Explosive Ordnance Disposal (EOD) service, the responsibility for submitting the report rests with the following, in the order given:

1. The U.S. Navy activity requesting EOD services.
2. The U.S. Navy activity having operational control of the EOD personnel rendering the service.
3. In cases not covered by (1) or (2) above, the EOD group to which the EOD personnel are permanently attached.
4. If EOD units respond in an explosive mishap, ensure the appropriate EOD units are information addressees on all reports.

(3) Submission of Reports

(a) General. Reports are normally unclassified (FOR OFFICIAL USE ONLY). If the inclusion of classified material is essential, a separate classified addendum for an otherwise unclassified report may be submitted.

(b) Message Reports. The message report described in this appendix is required for all explosive mishaps and conventional ordnance deficiencies. The report shall be submitted in addition to any reports required by other directives.

(c) OPREP-3 Reports. The submission of an OPREP-3 report does not relieve the command from the requirement for submitting an explosive mishap or conventional ordnance deficiency report.

(d) Initial Message or Telephone Report. Make an initial Explosive Mishap Report for all Class A and B severity explosive mishaps by immediate message in the format provided in appendix A6-G, giving as much information you have available. When circumstances permit, also make a telephone report within 24 hours to the following (if they are action addressees on the message report):

1. During normal working hours (0800 -1630 Eastern time):

CNO (N411) - DSN: 225-7093 or commercial: (703) 695-7093

NAVORDCEN INDIAN HEAD (N71) - DSN: 354-6081 Ext. 107 or
commercial: (301) 743-6081

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COMNAVSAFESYSCOM (AIR-516C1) - DSN: 222-8702 or commercial:
(703) 692-8702 (Explosive material/equipment)

COMNAVSAFESYSCOM (AIR-09F) - DSN: 222-1234 or commercial:
(703) 692-1234 (Deaths and injuries)

R) COMNAVSAFECEN (Code 43) - DSN: 564-3520, ext 7164 or
commercial: (757) 444-3520, ext 7164.

2. Outside normal working hours (1630 - 0800 Eastern time):

CNO (Navy Department Duty Captain) - DSN: 225-0231 or
commercial: (703) 695-0231

COMNAVSEASYSYSCOM (Watch Officer) - DSN: 332-7527 or
commercial: (703) 602-7527

COMNAVSAFESYSCOM (Duty Officer) - DSN: 222-1666 or
commercial: (703) 692-1666

COMNAVSAFECEN (Duty Officer) - DSN: 564-3520 or
commercial: (757) 444-3520

(e) Upon completion of the preliminary mishap investigation of a Class B mishap, submit a supplementary report providing additional or changed information from the initial report. Send all supplementary reports within 7 days of the initial report.

(f) Submit an initial explosive mishap or conventional ordnance deficiency message report within 24 hours for all Class C explosive mishaps and in the following circumstances:

1. One or more individuals exhibiting physiological symptoms of agent exposure.

2. An unintentional or uncontrolled release of chemical agent where the agent quantity released to the atmosphere creates a serious potential for injury or death.

3. Injuries sustained as a result of an explosive mishap or conventional ordnance deficiency which meets the definition of a lost time case.

(g) Submit a message report within 30 days for all other explosive mishaps or conventional ordnance deficiencies. Do not submit letter reports instead of messages.

d. Reports to the Department of Defense Explosives Safety Board (DDESB). Reference A6-7 requires each DoD component to submit reports to the DDESB for mishaps involving ammunition, explosives, and chemical agents and systems. CNO (N411) is the central U.S. Navy office responsible for ensuring accomplishment of the required reporting and investigation and the point of contact between DDESB and U.S. Navy activities.

e. Dissemination of Information. Each Navy and Marine Corps command receiving an Explosive Mishap or Conventional Ordnance Deficiency Report from a Class B and C severity mishap may release the data to appropriate

subordinate commands and personnel. Appendix A6-A discusses the restrictions on disseminating information in MIRs on Class A explosive mishaps. If there are any questions on the use of this report, call COMNAVSAFECEN (Code 43) at DSN: 564-3520 Ext. 7164 or commercial (757) 444-3520 Ext. 7164.

f. Addressees of Message Report. See Appendix A6-K, Attachment A6-G-1

(R)

A0607. Motor Vehicle Safety Report (MVSAR), Report Symbol OPNAV 5102-4(MV), Appendix A6-L

a. This report is submitted to the Naval Safety Center within 30 days by the command in the event of:

(1) Government Motor Vehicle (GMV) Mishap. A mishap involving the operation of a government-owned motor vehicle resulting in a collision with other vehicles, pedestrians (including joggers), bicyclists or other objects; personal injury or property damage due to cargo shifting in a moving vehicle; personal injury in moving vehicles or by falling from moving vehicles; towing or pushing mishaps; and other injury or property damage when there is one or more of the following:

(a) At least \$2,000 property damage (total of all government- and privately-owned vehicles and property), or

(b) A fatality or an injury resulting in 5 (1 day for embarked Marines) or more lost workdays to military and Navy civilian personnel, or

(c) A civilian fatality while riding in, or caused by a government-owned motor vehicle.

(2) Private Motor Vehicle (PMV) Mishap. A traffic mishap, regardless of the identity of the operator, not involving a government-owned motor vehicle but resulting in:

(a) A fatality or injury resulting in 5 (1 day for embarked Marines) or more lost workdays to on- and off-duty assigned military and on-duty Navy civilian personnel, or

(b) \$2,000 or more government property damage.

(c) A motor vehicle mishap causing death to any other person not otherwise defined occurring on a naval installation or as a result of military operations.

(3) Naval Reserve personnel on inactive duty for training (travel) (IDTT), who are involved in a motor vehicle mishap while traveling from their home directly to the drill site, or from the drill site directly home, shall be counted as an off-duty reportable motor vehicle mishap if they meet all other reporting requirements.

b. Exceptions

(1) The following mishaps, although reportable and accountable, are not motor vehicle mishaps. They are accountable under other categories and reported under the provisions of reference A6-3 or a Mishap Report (MR) for personnel assigned to afloat units.

(a) Personal injuries that occur while loading or unloading, mounting or dismounting a motor vehicle which is not moving.

(b) Damage to a properly parked GMV unless it is damaged by another GMV.

(c) Property damage resulting solely from acts of God are not reportable unless the activity did not adequately prepare for the extreme conditions.

(d) Damage to a GMV:

1. Being handled as a commodity and not being operated under its own power.

2. By objects thrown or propelled into it

3. By fire when no motor vehicle mishap occurred. Refer to OPNAVINST 11320.25B (NOTAL) for additional reporting requirements.

(e) Attempted or consummated suicide or other intentionally self-inflicted injuries when a motor vehicle is involved.

(f) Injuries or death caused by attempted or consummated homicide or other criminal act or altercations, attack, or assault using a PMV.

(g) Injuries or death to military or on-duty Navy civilians escaping from or eluding military custody or arrest in a vehicle.

(h) Injury or death due to natural causes. For example, a driver of a motor vehicle has a heart attack or other medical emergency while driving. If medical authorities can determine the medical condition caused the mishap, the resultant injury or death is not reportable. However, injuries to others or property damage as a result of the mishap are reportable, if they meet minimum reporting criteria.

(i) Damage to a GMV resulting from vandalism, riot, civil disorder, sabotage, terrorist activity, or a felonious act.

(j) Injuries or fatalities to military or on-duty Navy civilian personnel escaping from or eluding military or civilian custody or arrest.

c. Off-road and combat vehicles. Motor vehicle equipment designed primarily for off-the-highway operations such as tracked or half-tracked vehicles, forklifts, road graders, agricultural tractors, and aircraft tugs are special purpose or combat vehicle use and are reported according to reference A6-3 when ashore and paragraph A0605 or A0606 when embarked.

d. Reporting Requirements

(1) Responsibility. The commanding officer, officer in charge, or master of a ship shall ensure an investigation is conducted. When afloat personnel are involved in a reportable motor-vehicle mishap away from their duty station, the naval activity nearest the scene will notify the victim's command. The two commands shall determine which one conducts the investigation. However, the final responsibility for ensuring that the report is submitted rests with the individual's parent command. Establish

contact between the ship's commanding officer, executive officer, or motor vehicle safety officer and the naval activity to ensure timely mishap investigation, reporting, and corrective actions.

(2) Submission of Reports. Within 30 days, the investigating command shall release an Motor Vehicle Safety Report (MVSr) in the format contained in the sample format in appendix A6-L by message to Commander, Naval Safety Center (COMNAVSAFECEN). Reporting activities shall include their chain of command as information addressees on mishaps meeting the reporting threshold for a Class A or B mishap.

(3) Preliminary Reports

(a) A preliminary message report must be made to COMNAVSAFECEN NORFOLK VA//42/40/50/30/70/054// within 24 hours of a parent command's notification when any of the following occurs:

(R)

1. Any on-duty motor vehicle mishap resulting in a fatality to one or more Navy military or Navy Federal, non-appropriated fund (NAF), or foreign civilian personnel up to 6 months after the date of occurrence.

2. Any on-duty motor vehicle mishap where three or more assigned military or Navy civilian personnel are admitted to the hospital.

(b) A preliminary message report must be made to COMNAVSAFECEN NORFOLK VA//42/40/50/30/70/054// within 48 hours of a parent command's notification when any of the following occurs:

(R)

1. Any off-duty motor vehicle mishap resulting in a fatality to one or more Navy military personnel up to 6 months after the date of occurrence.

2. Any off-duty motor vehicle mishap where three or more assigned military personnel are admitted to the hospital.

(c) For preliminary reports, at a minimum, report the date and time of mishap; name and social security number of injured or dead people; location of mishap; description of the mishap; and extent of damage or injury. A preliminary message report is not required if the required information has already been sent to COMNAVSAFECEN in an OPREP-3 or UNIT SITREP message. Submission of a preliminary message does not relieve the command from submitting a complete report within 30 calendar days of the mishap. Send information copies of the report to the appropriate chain of command.

(R)

e. Additional Information. If additional information becomes available, or information originally submitted changes, submit a follow-up report. Give the local time and date of the mishap and the name(s) of the injured or dead reported on the original MVSr Report. Then, give only the items to be added or changed. Mark the report, "Modified" and send it to the same addressees as the original report. COMNAVSAFECEN may also request additional information.

A0608. Diving Mishap/Hyperbaric Treatment/Death Report, Report Symbol OPNAV 5102-5, Appendix A6-M. (Appendix A6-N, provides guidance for diving mishaps not requiring hyperbaric treatment)

a. The analysis of findings in this report are an assessment of what caused the mishap. This will fall under four categories: human, procedural, equipment/material and design factors. These are delineated with examples in appendix A6-M. This report is submitted to the Naval Safety Center within 30 days by the command in the event of:

R) (1) Any Class B, reportable Class C, or special case diving mishap involving Navy divers when diving from the ship or submarine, ship's boat, or when diving from a shore command. Class A diving mishaps are reported using a Mishap Investigation Report (MIR) as described in paragraph A0604 and Appendix A6-E, as modified by paragraph A0608d(1).

(2) Hyperbaric treatment or recompression therapy conducted as a result of a diving mishap in a recompression chamber. Humanitarian civilian treatments are not reportable.

(3) Any diving injury or illness preventing a diver from performing regularly established duty or work for 5 days (1 day for Marines) or more when diving from the ship or submarine, ship's boat, or when diving from a shore command. For civilian divers, report diving injury or illness preventing the employee from working for five full shifts or more. Begin counting the 5 days (1 day for Marines) or five full shifts at 2400 on the day of injury or illness.

(4) Any incident of central nervous system (CNS) oxygen toxicity and pulmonary over inflation syndrome (POIS), even if hyperbaric treatment was not required.

(5) Recreational diving mishaps resulting in a reportable injury to Navy military personnel require the submission of a RAHS report appendix A6-J.

R) (6) Report aviation bends cases per reference A6-8.

(7) USMC/USMCR personnel. These reports are in addition to any others required by Marine Corps regulations.

b. The DV contains privileged information but shall not state the sources of any information.

c. If mishap investigators determine there is a need to obtain privileged witness information that may reveal valuable safety information in diving mishap, they shall advise the commanding officer who shall then ascertain the need for a MIB and inform the ISIC.

d. Class A diving mishaps. In the event of a Class A diving mishap the following steps must be taken in addition to the requirements of paragraph A0604:

(1) Modify Part Alpha of the MIR to include the information required by appendix A6-M. MIRs of Class A diving mishaps are used for safety purposes only and contain privileged information. The release, distribution, and control of these reports are limited to prevent unauthorized disclosure of report contents.

(2) An autopsy is required for all on-duty diving deaths. Advise the servicing medical facility that the death was diving-related. Include a copy

of the autopsy with the mishap investigation evidence and forward autopsy results to:

Chairman of Forensic Sciences
Armed Forces Institute of Pathology
6825 16th St., NW
Washington, DC 20306-6000

(3) Impound, seal, and send all diving equipment involved in diving mishaps resulting in a fatality or permanent total disability to:

Commanding Officer
Naval Experimental Diving Unit
Attn: Code 07 (Test and Evaluation)
321 Bullfinch Road
Panama City, FL 32407-7015

e. Reporting Procedures

(1) Responsibility. The immediate superior in command (ISIC), commanding officer, or officer in charge shall ensure that all diving mishaps are investigated and reported.

(2) Preliminary Reports. A preliminary, priority message report must be made to COMNAVSAFECEN NORFOLK VA//30/054//00// within 24 hours of a parent command's notification for any Class A diving mishap not previously reported by OPREP-3 or UNIT SITREP message.

(3) Submission of Reports

(a) Report all Class A diving mishaps by submitting an MIR by the MIB using the procedures in paragraph A0604 and the MIR format in appendix A6-E. As modified by para A0608d(1). (R)

(b) Report all Class B and C diving mishaps or hyperbaric treatments by message. (R)

(c) Use the format in appendix A6-M to report Class B and C diving mishaps requiring hyperbaric treatment. Use the format in appendix A6-N to report Class B and C diving mishaps not requiring hyperbaric treatment. Submit reports within 30 days of the mishap. Include the diving information required in the Dive Reporting System for any dive resulting in a diving mishap reported. Keep diving mishap reports unclassified, if possible. If the commanding officer cannot complete a meaningful, unclassified diving mishap report, submit a separate classified addendum for an otherwise unclassified DV. (R)

(d) When the mishap occurs away from the diver's parent command, the treating facility will submit the Diving Mishap Report. They must notify the parent command as soon as possible. Ultimate responsibility for reporting the mishap lies with the diver's parent command.

(e) Report uneventful dives using the Dive Reporting System (DRS).

A0609. Off-duty Recreation, Athletics and Home Safety Mishap Report, Report Symbol OPNAV 5102-10, Appendix A6-O.

a. This report is submitted to the Naval Safety Center within 30 days by the command in the event of:

(1) An off-duty recreation, athletic or home death or injury preventing Navy military personnel assigned to afloat units from performing regularly scheduled work for 5 days (1 day for embarked Marines) or more after 2400 on the day of injury.

(2) All non-operational, serious injuries or deaths occurring to anyone either on or off a naval installation using Navy-owned and managed property (for example: Morale, Welfare and Recreation (MWR) hobby shops, athletic facilities, and child development centers). Off-duty special case mishaps are reportable only if they involve negligence in the operation or maintenance of Navy property such as missing machine guards and damaged playground equipment. A serious injury is one comparable in severity to an injury or illness that would result in 5 or more lost work days.

(3) Recreation and athletic mishaps during compulsory physical training activities, where personnel are considered on-duty (including compulsory sports and command sponsored activities during working hours), require the submission of an MR as explained in paragraph A0605. Include the 72-hour pre-mishap profile (paragraph 1c(6) of the RAHS Mishap Report) for Class A and B mishaps resulting from compulsory physical training or physical readiness tests.

(4) The RAHS Mishap Report shall not include privileged witness information. The RAHS Mishap Report shall not state the source of any information.

b. Reporting Requirements

R) (1) Responsibility. The commanding officer, officer in charge, or master shall require the investigation and reporting of all off-duty recreation, athletic, and home reportable mishaps occurring to personnel within the command. When a Sailor assigned to a ship is injured or killed away from the ship, the naval activity nearest the scene will notify the victim's command. Unless relieved by the victim's command or higher authority, the naval activity nearest the scene of the mishap will investigate and report it as prescribed in appendix A6-0. However, the final responsibility for ensuring the report is submitted rests with victim's command. Establish contact between the ship's commanding officer, executive officer, or recreation, athletics, and home safety (RAHS) officer and the naval activity to ensure timely mishap investigation, reporting, and corrective actions.

R) (2) Submission of Reports. Commanding officers, officers in charge, and masters shall release Off-duty RAHS Mishap Report to COMNAVSAFECEN within 30 calendar days of the reportable mishap. Reporting activities shall include their chain of command as information addressees on Class A and B mishaps.

R) (3) Preliminary Message Reports. Make a preliminary message report to COMNAVSAFECEN within 48 hours of notification of an off-duty mishap resulting in a fatality or the inpatient hospitalization of three or more Navy military personnel. An OPREP-3 or UNIT SITREP message satisfies this requirement.

(a) For preliminary reports, use the format in appendix A6-O to provide available information. As a minimum, include:

1. Date, time, and location of the mishap.
2. Name and location of the personnel involved.
3. Extent of their injuries.
4. Description of the mishap shall be furnished.

(b) Submitting a preliminary message or telephone report does not relieve the command from submitting a complete Off-duty RAHS Mishap Report. Send information copies to the appropriate chain of command.

(4) Additional Information. If additional information becomes available, or information originally submitted changes, submit a follow-up report. Give the LOCAL TIME and DATE of the mishap and the NAME(s) of injured or dead reported on the original Off-duty RAHS Mishap Report. Then, give only those items to be added or changed. Mark the report, "Modified" and send it to the same addressees as the original report. COMNAVSAFECEN may also request additional information.

c. Off-Duty Recreation, Athletics, and Home Mishap Records. Keep a file of injury reports for all off-duty recreation, athletics, and home mishaps.

A0610. The Safety Recommendation (SAFEREC)

a. The Safety Recommendation (SAFEREC) is designed to reduce injuries to personnel and damage to Navy property. SAFERECs should have broad application to material, equipment, or personnel. A suggested SAFEREC may be submitted by means of a naval message or letter, via the chain of command, or by e-mail to afloat@safetycenter.navy.mil.

(1) Suggested SAFERECs should be submitted to Commander, Naval Safety Center (COMNAVSAFECEN). COMNAVSAFECEN shall evaluate and, if appropriate, forward to the proper action authority.

(2) SAFERECs may be initiated by COMNAVSAFECEN based on MRs, MIRs, safety surveys results, or other correspondence.

b. SAFERECs are referred to the following action authorities:

(1) Systems Commands (SYSCOMs) (for example, COMNAVSEASYSKOM) for modification to equipment design or maintenance techniques.

(2) Bureau of Personnel (BUPERS) for manning needs.

(3) Chief, Naval Education and Training (CNET) for training needs.

(4) OPNAV Warfare Sponsors or the appropriate type commander(s) for ship alteration (SHIPALT) accomplishment or priority of funding.

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(5) Chief, Bureau of Medicine and Surgery (BUMED) for industrial hygiene and occupational health support.

Responsibility for action on a SAFEREC may change as it moves from initial design to fleet or field installation.

c. For SAFERECs to be effective, the final or concluding action must be well-defined. A SAFEREC can typically involve one or more of the following:

(1) Personnel or Maintenance Procedure. Includes developing new or revised training or personnel qualification standards (PQS), operating or maintenance procedures, or safety precautions.

(2) Technical References or Specifications. Includes changes to basic requirements of any instructions, documents, specifications, technical manuals and warfare publications.

(3) Off-the-Shelf Systems or Non-Developmental Items (NDI). Includes suggestions or recommendations to consider the use of an existing item, product, or system readily available commercially or used by another service.

(4) Design Change to Existing Equipment or System. Includes specific engineering or design change or alteration to existing systems, subsystems, equipment, or components.

(5) New Equipment Development. Includes the development of a completely new system, subsystem, or component.

(6) Non-Developmental Items (NDI). Includes the purchase of equipment and other items directly from civilian sources for immediate use by the U.S. Navy or after slight modification for shipboard use.

d. A SAFEREC will be initiated by COMNAVSAFECEN notifying the appropriate action authority of a fleet or field input, MRs, MIRs, e-mail messages, or safety survey. COMNAVSAFECEN shall:

(1) Ensure the SAFEREC concisely states the problem and the recommended action.

(2) Assign a risk assessment code (based on Chapter A4).

(3) Provide a point of contact (SAFEREC manager).

(4) Contact the appropriate program sponsors to determine if corrective action exists.

(5) Provide a copy of the initial SAFEREC letter to the primary program or warfare sponsor and the originator.

(6) Provide a management system to assist in monitoring the progress of action being taken by action authorities.

(7) Track the progress of action from planning through implementation. Close out the SAFEREC upon completion of the recommended action or other solution.

e. Action Agencies shall:

(1) Assign a point of contact for SAFEREC management including reporting of progress and technical difficulties. Notify appropriate commands of changes in the point of contact.

(2) Provide copies of formal correspondence pertinent to the SAFEREC evaluation or final corrective action to appropriate commands.

(3) For all fiscal programming actions, where funding shortages prevent using current fiscal year funds, establish reprogramming action and budget identity with milestone date(s). This allows an assessment of probability of fund receipt and continuation of effort.

(4) Provide periodic SAFEREC progress reports to appropriate commands.

(5) When there are delays in projected scheduled accomplishments, provide explanatory documentation to appropriate commands.

f. The Director, Surface Warfare Division (N76), Director, Submarine Warfare Division (N77), Director, Air Warfare Division (N78), and Director, Environmental Protection, Safety and Occupational Health Division (N45) shall:

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(1) Prioritize the funding and accomplishment of SAFERECs.

(2) Regularly review SAFERECs under their cognizance.

(3) Ensure SAFEREC action authorities are progressing toward due dates or milestones.

(4) Reassign all misdirected or erroneously assigned SAFERECs and act as negotiator for any impasse between COMNAVSAFECEN and action authorities of SAFERECs.

CHAPTER A6

REFERENCES

A6-1. JAG Instruction 5800.7C, "Manual of the Judge Advocate General"

A6-2. COMSCINST 5100.17C, "Afloat Safety and Occupational Health Manual" (NOTAL)

A6-3. OPNAVINST 5100.23E, "Navy Occupational Safety and Health Program Manual" (NOTAL)

A6-4. OPNAVINST 5102.1C, "Mishap Investigation and Reporting" (NOTAL)

A6-5. OPNAVINST 3100.6G, "Special Incident Reporting (OPREP-3, Navy Blue, and UNIT SITREP) Procedures"

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A6-6. CINCUSNAVEUR/CINCLANTFLT/CINCPACFLT INST 3100.7, "Special Incident Reporting (OPREP-3/UNIT SITREP)" (NOTAL)

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- A6-7. DOD Instruction 6055.7, "Mishap Investigation, Reporting, and Recordkeeping" 03 October 2000 (NOTAL)
- R) A6-8. OPNAVINST 3750.6Q, "Naval Aviation Safety Program" (NOTAL)
- R) A6-9. SECNAVINST 5100.10H, Department of Navy Policy for Safety Mishap Prevention, and Occupational Health Programs (NOTAL)

Appendix A6-D

INVESTIGATION PROCEDURES GUIDE

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This guide will help the afloat safety officer and mishap board members conduct a mishap investigation. It includes information on:

Responsibilities

Investigative Procedure

Collection of Evidence

Witness Statements

The Witness Interview

Medical Information and Materials

Protecting the Mishap Scene

Physical Evidence

Criminal Evidence

Photographs and Videotapes

Identifying Pictures

Privileged Photographs

Sketches and Diagrams

Logs and Written Records

Reconstructing/Re-Enacting the Mishap

RESPONSIBILITIES

The investigators' responsibilities include:

1. **Collecting, organizing, interpreting, and protecting** all physical and testimonial evidence.
2. Making sure photographs and videotapes **accurately** depict the mishap scene, whether taken before or after arrival of the mishap board.
3. **Interpreting** logs, records, blueprints, schematics, and written procedures.
4. **Taking statements** from witnesses, including advising all witnesses in writing of the restricted uses of their privileged testimony.

5. **Reconstructing** the sequence of events leading up to, and immediately following, the mishap.

INVESTIGATIVE PROCEDURE

The investigative procedure followed by the investigator should answer the following questions:

WHO?	WHAT?	WHERE?	WHEN?	WHY?	HOW?
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The investigation should start as soon as possible after the mishap occurs. The sooner an investigation starts, the better the result. Starting the investigation rapidly reduces the possibility of:

1. Witnesses leaving the ship.
2. The ship leaving port because of the schedule.
3. Witnesses forgetting important information.
4. Damaged equipment and materials being moved or repaired. Investigators can deduce more accurate information when equipment remains in the same position and condition as it was immediately following a mishap.
5. Demoralizing the crew because of the delay in returning the scene to its original condition.
6. Transient medical evidence breaking down and values returning to normal.
7. Logs, chart entries, and other information being erased or "cleaned up" and creating inaccurate records.

The circumstances and facts the investigators find at the mishap scene dictate the order and questions to ask witnesses or other interested people.

NOTE:

Don't confuse "interested people" with "interested parties" in a JAG Manual investigation.

Talk to everyone in the area of the mishap. This includes people there just before, during, or after the mishap. People involved in the rescue and cleanup can also provide valuable information. Do not overlook "outside witnesses."

EXAMPLE:

Ships alongside or across the pier, small craft in the vicinity, and people on the pier or in adjacent buildings.

COLLECTION OF EVIDENCE

Investigators normally start collecting evidence as soon as they arrive on the mishap scene. They may collect physical evidence and pieces of wreckage and take photographs and videotape the scene.

In investigating a mishap scene, the investigator could be exposed to health hazards such as soot, asbestos fibers in torn lagging, toxic chemicals, and other hazards like sharp metal. The following equipment may be useful during evidence collection and mishap scene evaluation:

Disposable Coveralls

Protective Gloves

Respirator, Disposable, (Organic vapor with HEPA filters)

Safety Glasses and Goggles

Safety Shoes

Blank labels or tags

Camera with flash (35mm disposable or single lens reflex,
color print film, ISO 100, 200, & 400)

China Marking Pencils (red and black)

Envelopes, Manila

Felt Tip Markers (red and black)

Flashlight, 2-cell, Explosion-Proof (spare batteries)

Graph Paper

Hacksaw (Frame and Blades)

Inspection Mirror, 2 1/4 adjustable

Notebook

Plastic envelopes or small bags (zip-lock)

Pliers (regular, needle nose, and wire cutters)

Pocket knife

Polyethylene Rope (yellow)

Retrieving Tool, Magnetic

Ruler, 12-inch Wooden

Screwdriver, (flat and Phillips head)

Steel Measuring Tape, (12 foot and 100 foot)

Video camera (optional)

Voltage Tester

Wrench, adjustable (6- and 8-inch)

Yellow Lumber Crayon

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Most of these items will be available on board the ship. If a respirator is necessary, the ship's respiratory protection officer can assist the investigators in getting their medical screening and fit-testing.

WITNESS STATEMENTS

Recent court cases and DoDINST 6055.7, Mishap Investigation, Reporting, and Recordkeeping (reference A6-7), have necessitated a change in how a mishap investigation board obtains witness statements.

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Previously, all witness statements provided to a mishap investigation board have been given orally and taken under the concept of privilege. To protect the release of privileged information to the courts, DoD is limiting the amount of privileged information gathered. Witnesses can make privileged

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statements to the MIB. However, it is not automatic. The MIB will determine which witnesses will be offered to make a statement to the mishap investigation board under the concept of privilege.

In any safety investigation **NEVER TAKE ANY STATEMENTS UNDER OATH.** Any statement can include speculation, hearsay, rumors, or opinions of the witness.

If the witness elects to provide information under the concept of privilege, fill out an "Advice to Witnesses" form (attachment A6-D-17). Mishap board investigators should use it to inform witnesses their statement is for safety purposes only. The mishap board member gives the form to the witness to read, understand, and sign. The mishap board member also signs the statement. Then, the board member provides a copy to the witness.

In investigations conducted by a mishap investigation board, some witness statements provided to the board **are privileged information**. Whether the statement the witness makes is privileged or not, no one gives statements made to members of a mishap investigation board to an investigator from another investigation.

JAG, Naval Criminal Investigative Service (NAVCRIMINVSERV), and other investigators **may make their witnesses' statements available** to the mishap safety investigators. Let them! . . . However, the mishap board **never reciprocates!**

The mishap investigation board can glean valuable information from the statements. However, the mishap investigation board should **re-interview** appropriate witnesses. JAGMAN statements, taken under oath, may not contain as much information as statements made under the assurance of privilege and limited use.

R) A witness' statement is an account of the circumstances surrounding the mishap as he or she remembers them. The mishap investigation board member may tape record it or have the witness dictate it. The mishap investigation board member(s) can summarize the witness' statement. If the board member tape records the witness' statement, he or she should transcribe the summary as soon after the interview as possible and erase the tape.

R) **WRITTEN STATEMENT** - Although not recommended, the witness **can** write out the statement in his or her own words.

NOTE:

For Internal Shipboard Mishap Investigations: A safety officer, conducting an shipboard mishap investigation, will not take written witness statements. An interview may be conducted, but the only written record should be the safety officer's notes. Do not include the source of the information on the notes. A written witness statement should never be taken for an internal shipboard investigation.

TAPE RECORDED STATEMENT - If witnesses do not want to write out their statements, the interviewer may use a tape recorder. Witness should read,

understand, and sign the "Advice to Witness" statement before starting to record the statement.

At the start of the tape, fully identify who is talking, about what mishap, when the interview is taking place, the information is for safety purposes only, and other identifying data. The interviewer should ask witnesses if they mind your recording their statement.

The interviewer should transcribe the statement as soon as possible and then erase the tape. This will avoid any controversy over whether the tape is physical evidence or not.

Dictated Statement - The witness should dictate his or her statement to the interviewer.

The witness should read, understand, and sign the "Advice to Witness" statement. The interviewer should avoid asking any questions until the witness is finished with the statement and can review the summary with the witness at the end of the interview. The witness should not sign the summary of the interview.

IF POSSIBLE, REPEAT EACH INTERVIEW A FEW DAYS AFTER THE INITIAL INTERVIEW.

The witness may remember additional facts or the interviewer may have additional questions.

THE WITNESS INTERVIEW

Before the initial interview:

1. The **sooner you interview** witnesses after the mishap, the better their recollection of the events will be. However, **don't delay medical treatment** to interview witnesses.
2. **Keep witnesses separated** while waiting for you to interview them. That way they can't confer with other witnesses and mentally fill in parts of their observations based on what someone else may have seen or heard.
3. While the witnesses are waiting for the interview, keep them busy outlining the sequence of events or making a sketch of the mishap site. Both will **help the witnesses remember** important information about the mishap. Until you give the witness' the "Advice to Witnesses" form, the outline or sketch are not privileged.
4. **Avoid interruptions** during the interview. Find someone to keep people from knocking on the door. They can also answer the phone for you or you can turn it off.
5. If the witness is undergoing medical treatment, or in the hospital, avoid conducting an interview while relatives are present. Check with the witness's physician and conduct your interview at some time other than visiting hours. Be careful not to tire or upset the witness.

6. Don't delay your investigation if you can't interview a key witness or the victim due to hospitalization or non-availability. Interview other available witnesses immediately.

Initiating the interview:

1. Completely explain who you are and the purpose of the investigation. Display an attitude of concern over finding the mishap causes and preventing this "terrible thing" from ever happening again.
2. Let witnesses complete the "Advice to Witnesses" form (attachment A6-A-1) before starting the interview or taking their statement. Make sure witnesses fully understands the concept of privilege vs non-privileged and the limitations on the use of their statement. If they don't, go over the contents of appendix A6-A.
2. Give witnesses a chance to relax. Ask them some routine questions for basic information.

EXAMPLE:

Get the correct spelling of their names. (Is it K-E-L-L-Y or K-E-L-L-E-Y? S-M-I-T-H or S-M-Y-T-H-E? S-T-E-V-E-N or S-T-E-P-H-E-N? You can get the answers to the questions elsewhere, but people enjoy talking about themselves and it shows you want to get all the facts correct.

Ask about their current job and a brief job description? Any previous jobs having a bearing on the mishap? These can give you valuable information on the validity of their statement, too.

Chat with witnesses for a few minutes until you see them calm down and you build a little rapport.

Then, let witnesses tell you what happened without interruption.

After witnesses finish, explain to them that you would like them to recount the entire sequence.

Sit down with witnesses and review the summary you have written. Ask witnesses to fill in any details that come to mind while reviewing the statements.

Then, and only then, start asking questions. You may have written some key questions out ahead of time.

Considerations:

1. Do not dominate the witness.
2. If two or more investigators conduct the interview, be sure only one asks questions at a time. The second investigator should ask questions only after the first investigator is done.

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- a. Witnesses may be more open if only **one investigator** is present.
- b. The exception to the rule is when the investigator and witness are of **opposite sexes**. Then, it is prudent to have a third person in the room.
3. Avoid **trick questions** or other tactics that would put the witness in an unfriendly attitude. Ask only one question at a time.
4. Do not ask **leading questions** or ones suggesting answers. Don't ask, "I assume the noise you heard was like a rifle shot?" Ask, "How would you describe the noise you heard?"
5. Use **open-ended questions**. Don't ask question requiring just a "yes or no" answer.
6. Do not use **derogatory comments** aimed at any person, piece of equipment, ship, or command to lure the witness into making a statement.
7. Let the witness **complete the answer** before you go to another question or topic.
8. Always **determine exactly who "they" are** when the witness is talking. If the witness brings up the name of someone new to the investigation, make sure you write down the name and interview him or her, too.
9. If the witness doesn't know peoples' names or jobs, ask for a **description**. If witnesses can, ask them to find out who "they" are. However, don't put the witness at risk.
10. At the end of the interview, ask witnesses to contact you **if they remember any more** details. Give them your phone number on a business or calling card.
11. Express **appreciation** to witnesses for the information given.
12. After witnesses leave, complete your **summary of the information**.
13. **Don't confuse your sources** of information. Use new note paper for each witness. Don't compare one witnesses' statement with what the witness is telling you during the interview.
14. Ensure you are **accurate**. When necessary, re-interview witnesses or ask additional questions to explain all areas completely. Witnesses frequently overestimate time, unless they are doing a familiar, repetitive event they can associate with the elapsed time.

Follow-up Interview:

Many mishap investigators prefer to conduct a follow-up interview of the witness at the scene of the mishap. This can be beneficial since the witness may be able to point out or remember more details because of the surroundings. It can also give the interviewer a better understanding of the sequence of events leading up to the mishap.

After the interview:

Review contents of the days interviews with the other members of the board. Ascertain if you have any **more questions** of those witnesses and determine if there are any additional witnesses discovered as a result of the interviews.

Put the statements and your notes in an envelope and put it in a **safe place** such as a safe or lockable file cabinet.

Nothing can destroy your effectiveness as a mishap investigator more quickly than for word to spread you are giving information to people you promised the witness you wouldn't.

MEDICAL INFORMATION AND MATERIALS

Medical materials you may have **available as evidence** include laboratory results, medical records, hospital admission forms, diagrams of wounds, autopsy reports, psychological profiles, or physician's written opinions. Most medical materials used as evidence do not fall under the concept of privilege. However, they may fall under the Freedom of Information Act exemption, Privacy Act, or doctor/patient confidentiality.

1. **Quick action** by the medical department representative (MDR) at the mishap scene is necessary because of the transitory nature of some medical evidence. The MDR collects the initial, particularly transient, medical evidence as directed by the commanding officer or higher authority. The transient evidence includes specimens to determine blood alcohol and drug levels.
2. The medical officer member, when assigned,
 - a. **Coordinates** the analysis of medical evidence with all other aspects of the investigation.
 - b. **Participates fully** in the investigation and deliberations of the board.
 - c. **Protects** confidential medical information, such as medical records, from unauthorized disclosure, and advises board members on the use of medical evidence.
3. Medical factors, such as physiological, social, behavioral, and psychological, may provide insight into the cause of the mishap. If during the investigative or deliberative process a board member feels medical factors may have had an effect on the

mishap, they should approach the medical member of the board to make these determinations.

PROTECTING THE MISHAP SCENE

If necessary, cordon off, secure, or guard mishap scenes to prevent disturbance of wreckage.

NOTE:

Operational requirements or damage control measures may require disturbing the mishap scene before the board arrives. In such cases, the commanding officer of the ship involved in the mishap protects the mishap site or damaged area from loss or further damage.

Before removing bodies from the mishap scene, take photographs of the victims in place, or make a sketch.

As soon as possible after the mishap:

MAKE AN ACCURATE PLOT OF THE SCENE.

TAKE PHOTOGRAPHS OR VIDEOTAPE RECORDINGS OF THE WRECKAGE, ITS DISTRIBUTION, AND THE SURROUNDING AREA.

MAKE A DIAGRAM OF ANY UNDERWATER DAMAGE.

Avoid the desire to repair or return the mishap scene to its original condition. Whenever possible, don't clean up or repaint the site until after the mishap investigators complete their collection of evidence. To reduce trauma and crew impact, cordon off or cover the scene.

Once a mishap investigation board convenes, **only the senior member** can authorize the disturbance of damaged areas or wreckage.

PHYSICAL EVIDENCE

Physical evidence may include wreckage or damaged equipment or any other physical proof of a mishap in the area directly affected by or surrounding the scene of the mishap.

A photo or sketch should accompany the item(s) to depict "as found" location and condition. Thoroughly photograph or sketch the mishap scene before moving or removing any wreckage or equipment.

Investigators must **carefully handle** all evidence, including pieces and parts of equipment or material, to make sure they don't alter or destroy it. Wear gloves or avoid handling the evidence with your hands.

1. Put all evidence in **plastic bags**, if possible, and seal them.
2. **Tag each item** with a full description and its relationship to the mishap. Use masking tape, index cards, or self-adhesive labels to identify each item of evidence. Include:

- a. **Who** and **when** it was collected.
 - b. **Location**, including its relationship to other items.
 - c. **Identification**, such as NSN, model number, MILSPEC, and manufacturer.
3. If you need to send it to a laboratory for analysis, **package it carefully**.
4. **Remember**, physical evidence is not privileged. Other investigators may request the physical evidence. **Don't include** any privileged information on the label or inside the bags. If necessary, use a numbering, lettering, or other coding system to identify evidence.

CRIMINAL EVIDENCE

If, during the investigation, any investigator discovers **evidence of a criminal act** related to the mishap, the senior member or mishap investigator **immediately informs the appointing authority**. The appointing authority will then confer with legal counsel and advise the Naval Criminal Investigative Service (NAVCRIMINSERV) and Commander, Naval Safety Center.

1. Some evidence gathered by the mishap investigation board may be releasable to other investigators. The senior member does not release information revealing the source of any physical evidence obtained because of privileged information, nor any testimony given under the assurance of privilege.
2. The senior member turns over all other nonprivileged physical evidence to the senior NAVCRIMINSERV agent.
3. The senior member may continue the safety mishap investigation, if directed by the appointing authority. Valuable safety information may result from investigating a mishap that occurred after the criminal act.

EXAMPLE:

In an arson case, the NAVCRIMINSERV would have to be informed. But, if during the fire fighting, two Oxygen Breathing Apparatuses (OBA) or Self Contained Breathing Apparatuses (SCBA) failed and caused two fatalities, we may wish to continue the mishap investigation. We can learn important information on the reliability of OBAs or SCBAs or other fire fighting equipment from the mishap investigation.

4. Before the appointing authority can direct the senior member to start or continue the investigation involving a criminal act, the appointing authority must comply with the 1984 Memorandum of Understanding Between the Departments of Justice and Defense Relating to the Investigation and Prosecution of Certain Crimes.

- a. The 1984 Memorandum requires the appointing authority to coordinate, and get the concurrence from the Department of Justice before starting or continuing the safety mishap investigation.
- b. If the appointing authority has any questions on whether or not to start, or continue the mishap investigation, consult the Judge Advocate General, Admiralty Division (Code 31). They will coordinate with other divisions within the Office of the Judge Advocate General and the Department of Justice.

5. If a mishap investigation is directed, the investigation will not use privileged information. The existence of privileged information can inhibit criminal prosecution. In this unusual case, the Office of the Judge Advocate General or the Naval Safety Center will give detailed instructions to the senior member.

PHOTOGRAPHS AND VIDEOTAPES

Good photographs and videotapes depicting conditions and situations are valuable evidence. **Color photos** give the best depictions. The Navy's photographic services and civilian developing companies develop color-print film. Therefore, it is convenient to use **color film** if you are planning on using the Naval Imaging Command or the aircraft carrier or tender photo lab.

You may find it convenient to invest in one or two disposable (point and shoot) 35mm cameras so you can take photographs immediately upon notification of a mishap. One camera with ISO 100 film (for outdoor use) and another with ISO 400 film (for indoor photographs) film should be sufficient. Make sure both cameras have a built-in flash.

(R)

Polaroid prints give you rapid feedback to be sure you get the desired result. However, they are difficult to reproduce and enlarge.

For better quality photographs, use a good 35mm, single lens reflex camera, with electronic flash. Zoom lenses, 50mm to macro and 35mm to 70mm, should be all you need.

Use your first picture on each roll to identify the film in case it gets misplaced. Include the following:

Command: _____
Roll _____
Date: _____ Time: _____
Photographer: _____
Type camera/lens: _____
Film type: _____
Brief description: _____

Use the Naval Imaging Command when the pictures are of a **sensitive nature**, such as in photographs of mishap victims or highly publicized mishaps. They use C-41 processing so any quality color-print film should be acceptable.

Have the imaging command make a 3" x 5" print of each view. Then, select the needed views for further analysis. After you select the views for study, request one 8" x 10" print of each view.

Videotaping a mishap scene immediately is a valuable investigative tool. Provide a narration of the details while taping. Use videotape to supplement, but not replace, still photographs.

IDENTIFYING PICTURES

Take photographs from at least **two angles**, if possible. Put a **scale or ruler** in photos to show size and dimensions. Use **arrows and pencil points** to draw attention to details in the photo.

It is critical to identify each photograph, either by listing the photograph number and location on a tablet or placing something in the photograph for identification. A piece of paper or a chalk slate with the location, time, date, and photograph number placed in the photograph scene can aid in identifying the photo.

Each photograph needs an explanation on the back explaining the

WHO?

WHAT?

WHERE?

WHEN?

of the photograph. If you are using a videotape, make sure the narration provides the answers to the same questions.

Keep a log with the details of each photograph beside the photograph number to refresh your memory when you get the prints.

PRIVILEGED PHOTOGRAPHS

Photographs and videotapes may be privileged. If the mishap investigation board plans or poses the scene to illustrate a specific condition or situation as part of their deliberative process, then the photograph or videotape is privileged.

EXAMPLE:

Mishap investigators take a photograph of the scene of the mishap including a person the same height as the victim. The investigators are using the photograph to show that the victim could have touched both the light switch and the sink at the same time.

All captions or markings placed on photographs suggesting the mishap board's deliberative process also are privileged.

EXAMPLE:

The paragraph on the back of the photograph of the demonstration described above showing the Sailor could touch both the light switch and the sink at the same time might state:

Taken 210900R December 99 by LCDR I. M. Investigator of the USS MISHAP SHIP mishap investigation board. This photograph is privileged. It shows the relationship between the light switch and the sink in the forward crews head on board USS MISHAP SHIP (compartment 2-158-0-L). The Sailor in the photograph is the same height as the victim (OS3 Radar) and clearly shows the victim could have touched both the switch and the sink at the same time.

It would be beneficial in this case to mark the front of the photograph with arrows showing the location of the light switch and the sink. If you are using a video camera, zoom in on the light switch then back off to show the relationship of the entire area then zoom in on the sink and back off again.

Photographs of human injuries/remains that are **not staged are not privileged**, but may be exempt from disclosure under exemption b(6) of the Freedom of Information Act.

EXAMPLE:

The ships corpsman took a photograph of the body of a Sailor on the deck. It shows the results of an attempted tracheotomy (blood draining from mouth, nose, and throat; shirt front covered with blood). The photograph is not privileged but is exempt from disclosure under the Freedom of Information Act. The photograph can be used as evidence with careful handling. The following illustrates the annotation on the back of the photograph:

Taken 211000R December 99 by LCDR I. M. Investigator of the USS MISHAP SHIP mishap investigation board. This photograph exempt from disclosure under exemption b(6) of the Freedom of Information Act. It shows the position of the body of SN Jones following lifesaving attempts by the ship's medical department.

The release of such a photograph, with an identifiable individual could cause distress among relatives. (If released to the newspapers and it showed up on the front page, for example.) Being not privileged means the same photo could be used by the JAG investigator, if he knew beforehand that it was available.

Upon completion of the investigation, include all copies of the photographs (3" x 5" and 8" x 10") with the evidence sent to the Naval Safety Center. Include all negatives and proof sheets.

SKETCHES AND DIAGRAMS

An important source of evidence or information for the investigator is the **position** of people, equipment, materials, and physical parts of the environment at the mishap site. Use diagrams and sketches to record the positions for use during analysis. You can use diagrams and sketches to facilitate and support the analysis and conclusions outlined in the mishap investigation.

Sketches, in addition to photos, give valuable information. For sketches, you can highlight significant items to give a more uncluttered rendition of the scene.

Investigators should start making sketches and diagrams as soon as possible after the mishap while most of the physical evidence is still in place.

1. Use **graph paper** to make the diagrams.
2. Pick four **points of reference** for measurements such as stanchions, large equipment, or frames.
3. Use compartment numbers and frame numbers to **orient** the diagram bow to stern and port and starboard.
4. **Label** or code key items.
5. Identify **height, length, and width** of objects.

Some items to record and measure include:

1. Location of injured and dead personnel.
2. Machines and equipment affected by the mishap.
3. Parts broken off or detached from the equipment.
4. Objects damaged, marked or struck against.
5. Gouges, scratches, dents, or paint smears.
6. Tracks, or similar indications of movement.
7. Defects or irregularities.
8. Accumulations of stains or fluids.
9. Spilled or contaminated substances.
10. Areas of debris.
11. Sources of distractions or adverse environmental conditions.
12. Safety devices and equipment.
13. Position of people and witnesses.
14. Possible movement of people, before, during, or after a mishap.

Look for things that are obviously missing. A key part of a machine may not have been replaced during maintenance.

LOGS AND WRITTEN RECORDS

Make exact copies of operating logs, records, directives, and other written documents. Ensure that all changes and modifications are up-to-date and incorporated according to current policies and procedures, as they existed at the time of the mishap.

EXAMPLE:

Do the blueprints show the current configuration of the ship?; Were jury-rigged equipment or structures a factor?; Was proper installation and testing accomplished?

If possible, reproduce documents by mechanical (copier) or photographic means for accuracy. Watch for obvious erasures, mark-overs, or other unauthorized corrections in logs that might not show up with some methods of reproduction. If you find any, make a note of it and try to find out who did it.

RECONSTRUCTING/RE-ENACTING THE MISHAP

After gathering the available real evidence and completing the interviews of available witnesses, reconstruct the event. The reconstruction can help to:

1. Establish a sequence of events, perhaps disclosing the cause factors for the mishap.
2. Identify where you need more information.
3. Identify circumstances that increased or decreased the effects of the mishap.

A technique that may help in reconstruction of the event, as well as get more information, is re-enacting the mishap with the involved parties. Base the decision to re-enact the mishap on:

1. Significant new information can be gained from re-enactment.
2. The sequence of events of the mishap cannot be developed in any other way.
3. The re-enactment can provide a key to prevent recurrence or verify the theories and opinions of the mishap investigation board.

In most mishaps, re-enactment is not necessary. Re-enactment is not advisable if the participants are emotionally upset, nervous, tense, or agitated. When re-enacting mishaps:

1. Ensure qualified supervisory personnel monitor the progress of the re-enactment.
2. Warn the participants not to repeat the act or unsafe practice that caused the mishap. Be prepared to stop the re-enactment if the

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participants are about to take an unnecessary risk or act unsafely in any way.

3. Ask the participants to demonstrate their actions slowly and deliberately, explaining as they demonstrate.

4. Before starting the re-enactment, brief the participant to proceed up to the point of the mishap. Beyond that point, use a talk-and-walk method of re-enactment.

Investigators observing the re-enactment should take notes, photographs, or videotape for further review and analysis.

ATTACHMENT A6-D1

ADVICE TO WITNESS (PROMISE OF CONFIDENTIALITY)

THIS IS PART OF A NAVY-MARINE CORPS SAFETY INVESTIGATION
LIMITED DISTRIBUTION AND SPECIAL HANDLING REQUIRED BY OPNAVINST 5100.19D **THIS
STATEMENT IS PRIVILEGED AND IS EXEMPT FROM DISCLOSURE**

PLEASE READ THIS STATEMENT CAREFULLY
CERTIFY THAT YOU UNDERSTAND IT BY YOUR SIGNATURE AT THE BOTTOM

I understand that:

- a. I have been requested to voluntarily provide information to a safety investigation board conducting an investigation of a Navy-Marine Corps mishaps.
- b. I AM NOT being requested to provide statement under oath or affirmation.
- c. Disclosure of personal information by me is voluntary, and that failure to provide such information will have no direct effect on me.
- d. The purpose of the information provided by me is to determine the cause of the mishap and/or the damage and/or injury occurring in connection with that mishap.
- e. All information provided by me to the SIR Board will be used ONLY for safety purposes.
- f. The information provided by me shall NOT be used:
 - (1) In any determination affecting my interests.
 - (2) As evidence to obtain evidence in determining misconduct or line of duty status of killed or injured personnel.
 - (3) As evidence to determine my responsibility or that other personnel from the standpoint of discipline.
 - (4) As evidence to assert affirmative claims on behalf of the government.
 - (5) As evidence to determine the liability of the government for property damage caused by the mishap.
- (6) As evidence before administrative bodies, such as Officer/Enlisted Separation Boards, Judge Advocate General Manual investigations/inquiries, Naval Aviator/Naval Flight Officer Evaluation Boards (FNAEB) or Marine Corps Field Flight Performance Boards (FFPB).
- (7) In any other punitive or administrative action taken by the Department of Navy.
- (8) In any other investigation or report of the mishap about which I have been asked to provide information.

1. STATEMENT (Continue on reverse and/or attach separate sheet(s) as necessary)

2. PRINTED NAME (First, Middle, Last)

3. SIGNATURE

4. DATE

5. RANK/RATE

6. SERVICE

7. TELEPHONE NUMBER

8. ADDRESS WHERE YOU MAY BE LOCATED

OPNAV 5102/11 (2-98)

ADVICE TO WITNESS

THIS IS PART OF A SAFETY INVESTIGATION
LIMITED DISTRIBUTION AND SPECIAL HANDLING REQUIRED BY OPNAVINST 5100.19D **THIS
STATEMENT IS NOT PRIVILEGED AND MAY BE DISCLOSED**

PLEASE READ THIS STATEMENT CAREFULLY
CERTIFY THAT YOU UNDERSTAND IT BY YOUR SIGNATURE AT THE BOTTOM

I understand that:

- a. I have been requested to voluntarily provide information to a safety investigation board conducting an investigation of a Navy-Marine Corps mishaps.
- b. I AM NOT being requested to provide statement under oath or affirmation.
- c. Disclosure of personal information by me is voluntary, and that failure to provide such information will have no direct effect on me.
- d. The purpose of the information provided by me is to determine the cause of the mishap and/or the damage and/or injury occurring in connection with that mishap.
- e. All information provided by me to the SIR Board will be used ONLY for safety purposes. It is further understood, however, that the information provided by me or contained in this report may be released in response to a Freedom of Information Act (FOIA) request.
- f. Although releasable under FOIA, the information provided by me shall NOT be used by the Government:
 - (1) In any determination affecting my interests.
 - (2) As evidence to obtain evidence in determining misconduct or line of duty status of killed or injured personnel.
 - (3) As evidence to determine my responsibility or that of other personnel from the standpoint of discipline.
 - (4) As evidence to assert affirmative claims on behalf of the government.
 - (5) As evidence to determine the liability of the government for property damage caused by the mishap.
 - (6) As evidence before administrative bodies, such as Officer/Enlisted Separation Boards, Judge Advocate General Manual investigations/inquiries, Naval Aviator/Naval Flight Officer Evaluation Boards (FNAEB) or Marine Corps Field Flight Performance Boards (FFPB).
 - (7) In any other punitive or administrative action taken by the Department of the Navy.
 - (8) In any other investigation or report of the mishap about which I have been asked to provide information.
- g. My signature acknowledges that I do not need a full Promise of Confidentiality as a condition on my willingness to provide testimony to the Board and I understand that statements given without a Promise of Confidentiality may be released. **(If the witness has any reservations about their statement being released to anyone outside the board itself, entitled persons in the safety endorsement process, or the public under FOIA, a Promise of Confidentiality should be offered to ensure forthright, candid testimony).**

1. STATEMENT (Continue on reverse and/or attach separate sheet(s) as necessary)

2. PRINTED NAME (First, Middle, Last)

3. SIGNATURE

4. DATE

5. RANK/RATE

6. SERVICE

7. TELEPHONE NUMBER

8. ADDRESS WHERE YOU MAY BE LOCATED

Appendix A6-K

**Addressees for Explosive Mishap Report/
Conventional Ordnance Deficiency Report Messages**

a. For all reports affecting research, development, or production base, include the following addressees: (R)

TO AIG 11449
Cognizant field activity(CFA)/Fleet support team (FST) (R)

INFO Receiving weapons station (turn-in items only)
Chain of Command

b. For all reports pertaining to surface launched rockets (less ASROC), include the following addressees: (R)

TO AIG 9281
CFA (Cognizant Field Activity)/FST (Fleet Support Team) (R)

INFO Receiving weapons station (turn-in items only) (R)
Chain of Command

c. For all reports pertaining to air launched rockets, include the following addressees: (R)

TO AIG 458
CFA (Cognizant Field Activity)/FST (Fleet Support Team) (R)

INFO
Receiving weapons station (turn-in items only) (R)
Chain of Command

d. For all reports pertaining to surface launched missiles, include the following addressees: (R)

TO AIG 11393
CFA (Cognizant Field Activity)/FST (Fleet Support Team) (R)

INFO
Receiving weapons station (turn-in items only) (R)
Chain of Command

e. For all reports pertaining to air launched missiles, include the following addressees: (R)

TO AIG 11369
AIG SEVEN SIX TWO ZERO
CFA (Cognizant Field Activity)/FST (Fleet Support Team) (R)

INFO
Receiving weapons station (turn-in items only) (R)
Chain of Command

f. For all reports pertaining to NAVAIR weapons system equipment and associated support hardware, include the following addressees: (A)

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TO AIG 11450 (R)
CFA (Cognizant Field Activity)/FST (Fleet Support Team)

INFO (R)
Receiving weapons station (turn-in items only)
Chain of Command

g. For all reports pertaining to gun ammunition 76mm and larger, include the following addressees: (R)

TO AIG 11124 (R)
CFA (Cognizant Field Activity)/FST (Fleet Support Team)

INFO (R)
Receiving weapons station (turn-in items only)
Chain of Command

h. For all reports pertaining to gun ammunition smaller than 76mm, include the following addressees: (R)

TO AIG 11113 (R)
CFA (Cognizant Field Activity)/FST (Fleet Support Team)

INFO (R)
Receiving weapons station (turn-in items only)
Chain of Command

i. For all reports pertaining to free fall weapons, include the following addressees: (R)

TO AIG 11384 (R)
CFA (Cognizant Field Activity)/FST (Fleet Support Team)

INFO
Receiving weapons station (turn-in items only)
Chain of Command

j. For all reports pertaining to small arms, include the following addressees: (R)

TO AIG 11383 (R)
CFA (Cognizant Field Activity)/FST (Fleet Support Team)

INFO (R)
Receiving weapons station (turn-in items only)
Chain of Command

k. For all reports pertaining to torpedoes, sonobuoys, and ASROC, include the following addressees: (R)

TO AIG 11388 (R)
CFA (Cognizant Field Activity)/FST (Fleet Support Team)

INFO (R)
Receiving weapons station (turn-in items only)

Chain of Command

1. For all reports pertaining to demolition, grenade, and bulk explosive, include the following addressees: (R)

TO AIG 11345 (R)
CFA (Cognizant Field Activity)/FST (Fleet Support Team)

INFO
Receiving weapons station (turn-in items only)
Chain of Command

m. For all reports pertaining to pyrotechnics and chemicals, include the following addressees: (R)

TO AIG 11116 (R)
CFA (Cognizant Field Activity)/FST (Fleet Support Team)

INFO (R)
Receiving weapons station (turn-in items only)
Chain of Command

n. For all reports pertaining to mines and projector charges, include the following addressees: (R)

TO AIG 11233 (R)
CFA (Cognizant Field Activity)/FST (Fleet Support Team)
INFO
Receiving weapons station (turn-in items only)
Chain of Command

o. For all reports pertaining to cartridge and propulsion devices, include the following addressees: (R)

TO AIG 11382 (R)
CFA (Cognizant Field Activity)/FST (Fleet Support Team)

INFO
Receiving weapons station (turn-in items only)
Chain of Command

p. For all reports pertaining to NAVSEA weapons system equipment and associated support hardware, include the following addressees: (R)

TO AIG 11452 (R)
CFA (Cognizant Field Activity)/FST (Fleet Support Team)

INFO (R)
Receiving weapons station (turn-in items only)
Chain of Command

q. For all reports pertaining to airborne expendables, include the following addressees: (A)

TO AIG 11167 (A)
CFA (Cognizant Field Activity)/FST (Fleet Support Team)

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INFO Receiving weapons station (turn-in items only)
Chain of Command

(A

r. For all reports pertaining to subsurface launched missiles, include the following addressees:

(R

TO AIG 11352
CFA (Cognizant Field Activity)/FST (Fleet Support Team)

(A

INFO Receiving weapons station (turn-in items only)
Chain of Command

(A

s. For all reports pertaining to tomahawk missiles, include the following addressees:

(A

TO AIG 11412
CFA (Cognizant Field Activity)/FST (Fleet Support Team)

(A

INFO Receiving weapons station (turn-in items only)
Chain of Command

(A

t. For all reports pertaining to weapon shipping containers and handling, include the following addressees:

(A

TO AIG 11477
CFA (Cognizant Field Activity)/FST (Fleet Support Team)

(A

INFO Receiving weapons station (turn-in items only)
Chain of Command

(A

Appendix A6-M

(R)

MESSAGE FORMAT
DIVING MISHAP with HYPERBARIC TREATMENT
REPORT SYMBOL OPNAV 5102-5

(For on-duty Class B and C reportable mishaps requiring hyperbaric treatment.)

1. General

Use this format to report Class B or C diving mishaps involving lost-time cases with hyperbaric treatment. Submit as much of the information as available in the initial report. Submit supplementary reports to supply missing information. Where the requested data are not applicable or are not relevant to the analysis of the mishap, insert "Not Applicable" or "N/A." Avoid using "unknown" unless you give the reason for not having the information.

2. Content and Format

(Precedence - normally ROUTINE).

FM REPORTING ACTIVITY

TO COMNAVSAFECEN NORFOLK VA//30/37/054//

INFO COMNAVSEASYS COM WASHINGTON DC//00C//
NAVXDIVINGU PANAMA CITY FL//02//
BUMED WASHINGTON DC//21//

(Others as desired, directed, or requested, by higher authority)

UNCLAS FOUO //N05102//

MSGID/GENADMIN/MSG ORIG/SER NO./MONTH//

SUBJ/DIVING MISHAP REPORT (REPORT SYMBOL 5102-5)//

REF/A/DOC/CNO/22MAR1993//

REF/B/DOC/CNO/30AUG2001//

REF/C/ (If this is a follow-up message, include the DTGs of all previous reports.)

NARR/REF A IS OPNAVINST 3150.27A, NAVY DIVING PROGRAM. REF B IS OPNAVINST 5100.19D CH-1, NAVOSH PROGRAM MANUAL FOR FORCES AFLOAT. THIS REPORT IS FOR OFFICIAL USE ONLY. THIS IS A PRIVILEGED, CONTROLLED DISTRIBUTION, SAFETY MISHAP REPORT. UNAUTHORIZED DISCLOSURE OF THE INFORMATION IN THIS REPORT BY MILITARY PERSONNEL IS A CRIMINAL OFFENSE PUNISHABLE UNDER ARTICLE 92, UNIFORM CODE OF MILITARY JUSTICE. UNAUTHORIZED DISCLOSURE OF THE INFORMATION IN THIS REPORT BY CIVILIAN PERSONNEL WILL SUBJECT THEM TO DISCIPLINARY ACTION UNDER CIVILIAN PERSONNEL INSTRUCTION 752. SEE CHAPTER A6 OF OPNAVINST 5100.19D FOR RESTRICTIONS.//

POC/name/rank/primary phone/-/location/secondary phone/e-mail address// (POC should be the DMO, DMT or MDV responsible for making the diagnosis and conducting the treatment)

Appendix A6-M

Enclosure (1)

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RMKS/1. PER REFS A AND B, THE FOLLOWING INFORMATION IS SUBMITTED:

A. ALPHA (NON-PRIVILEGED):

- (1) UIC OF REPORTING ACTIVITY
- (2) TYPE OF MISHAP (For example, decompression sickness (DCS) type I or II, arterial gas embolism (AGE), etc.
- (3) LOCAL DATE AND TIME OF MISHAP
- (4) UIC OF DIVER'S PARENT ACTIVITY
- (5) EVOLUTION AT TIME OF MISHAP (Brief scenario of diving operation. If mishap occurred during formal Navy training, include the course identification number (CIN)).
- (6) DIVE LOCATION (Choose one of the following):
 - (A) Open water
 - (B) Chamber
 - (C) Training tank or pool

B. BRAVO (NON-PRIVILEGED) DIVE DATA:

- (1) DIVING SYSTEM AND APPARATUS USED (Include type of diving system employed and description of equipment malfunction, if applicable.)
- (2) SOURCE OF GAS SUPPLY (Choose from one of the following)
 - (A) Compressor
 - (B) Air banks
 - (C) Gas banks
 - (D) Bottles man carried
 - (E) Mix maker
 - (F) Other (please describe)
- (3) BREATHING GAS PERCENTAGE (For example: 79% N2/21% O2, 100% O2, and 87% HE/13% O2).
- (4) LOCAL TIME LEFT SURFACE (Use 24-hour clock. For example, 0630 and 1800).
- (5) MAXIMUM DEPTH OF DIVE IN FEET, SALT WATER (FSW)
- (6) BOTTOM TIME AND SCHEDULE. IF REPETITIVE DIVE, LIST DEPTHS, BOTTOM TIMES, SURFACE INTERVALS AND SCHEDULES OF ALL DIVES.
- (7) LOCAL TIME REACHED SURFACE (Use 24-hour clock. For example, 0800, 0930, and 1500).
- (8) TOTAL DECOMPRESSION TIME OF DIVE
- (9) AIR TEMP/WATER TEMP/PURPOSE OF DIVE/DIVE PLATFORM

(10) TYPE OF DRESS

(11) SATURATION DIVE DATA: COMPRESSION RATES TO DEPTHS AS FEET PER MINUTE (FPM) TO FSW (For example, for a 700 FSW dive: 30 FPM TO 100 FSW/20 FPM TO 250 FSW/3 FPM TO 700 FSW)

(A) STORAGE ATMOSPHERE IN FSW

(B) CHAMBER ATMOSPHERE IN OXYGEN PARTIAL PRESSURE (MINIMUM AND MAXIMUM)

(C) MINIMUM EXCURSION DEPTH ATTAINED (IN FSW)

(D) MAXIMUM EXCURSION DEPTH ATTAINED (IN FSW)

C. CHARLIE (NON-PRIVILEGED): REPORTABLE INJURIES

(1) NAME/SSN/NOBC OR NEC/AGE/SEX/RACE/HEIGHT/WEIGHT

(2) RANK or RATE/DESIGNATOR/PAY GRADE/SERVICE and UIC (Include UIC if different from reporting activity and RUC (reporting unit code) if Marines are involved)

(3) ONSET OF SYMPTOMS (month/day/local time/depth) Use two digits for month and day, four digits for time (24-hour clock), and four digits for depth. (For example, 03/10/1525/0025).

(4) INITIAL DIAGNOSIS (For example, arterial gas embolism, DCS Type I, or Type II. In addition, list who made the initial diagnosis. A typical entry would read: AGE by MDV)

(5) RECOMPRESSION STARTED (month/day/local time) Use two digits for month and day and four digits for time (24-hour clock). (For example, 03/10/1525).

(6) REACHED MAXIMUM TREATMENT DEPTH (month/day/local time/depth) Use two digits for month and day, four digits for time (24-hour clock), and four digits for depth. (For example, 03/10/1525/0025).

(7) TIME OF COMPLETE RELIEF (month/day/local time/depth) Use two digits for month and day, four digits for time (24-hour clock), and four digits for depth. (For example, 03/10/1525/0025).

(8) TIME LEFT MAX TREATMENT DEPTH (month/day/local time) Use two digits for month and day and four digits for time (24-hour clock). (For example, 03/10/1525).

(9) COMPLETION OF TREATMENT (month/day/local time) Use two digits for month and day and four digits for time (24-hour clock). (For example, 03/10/1525).

(10) RECURRENCE NUMBER (For example, 0 indicates no recurrence and 1 indicates first recurrence.)

(11) TREATMENT TABLE USED (For recurrences, state all tables used.)

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(12) FINAL DIAGNOSIS (This is the final diagnosis attached to the case after all treatments, laboratory tests, x-rays, scans, psychometric tests, etc., have been completed and evaluated. If the report is preliminary, state, "Pending." In addition, indicate who made the final diagnosis)

(13) DRUGS USED IN TREATMENT

(14) OXYGEN PARTIAL PRESSURE USED IN TREATMENT IN TENTHS OF ATMOSPHERES (numerically in two digits)

(15) TREATMENT OUTCOME (For example, complete relief, substantial relief, and no relief.)

(16) TREATED BY (For example, MDV, DMO, or DMT)

(17) TOTAL NUMBER OF DAYS AWAY FROM WORK (estimated)

(18) TOTAL NUMBER OF DAYS RESTRICTED FROM DIVING

D. DELTA: CAUSES OF MISHAP (PRIVILEGED - CONTAINS THE COMMAND'S DELIBERATIVE EVALUATION) (State each cause of damage and injury with a short rationale. Causes should be one of the four major categories listed below, with subcategories as listed. Omit those categories and subcategories that don't apply and include as many causes in each category you determine apply. In paragraph ECHO, identify which of the causes you determine to be the root (or primary) cause of this mishap).

(1) HUMAN FACTORS (PERSONNEL ERROR): Consider human involvement in the events leading up to a mishap, actions taken as the mishap is occurring, and actions taken after the mishap occurred. For mishaps involving personnel error, state each cause with a brief explanation in one of the subcategories listed below.

(A) UNSAFE ACTS

((1)) ERRORS (MISTAKES OR UNINTENTIONAL ACTS):

((2)) VIOLATIONS (DELIBERATE BEHAVIOR THAT BREAKS ESTABLISHED RULES):

(B) UNSAFE SUPERVISION

((1)) INADEQUATE (Unintentional mistakes or failures by supervisors including the supervisor's absence)

((2)) VIOLATIONS (Deliberate rule breaking or disregard of authority by supervisors)

(C) UNSAFE CREW CONDITIONS

((1)) ADVERSE PHYSIOLOGICAL STATE (For example, physical fatigue, illness, intoxication, and obesity)

((2)) ADVERSE MENTAL STATE (For example, overconfidence, complacency, sleep loss, mental fatigue, and stress)

((3)) CREW RESOURCE MANAGEMENT (For example, poor team coordination and ineffective communications)

(D) ORGANIZATIONAL INFLUENCE

((1)) EXTERNAL (Factors controlled by sources outside the ship)

((2)) INTERNAL (Factors controlled by the commanding officer (or below) such as watchbill assignments)

Example: HUMAN FACTOR, UNSAFE ACT, ERROR. MS3 FAILED TO TAG OUT GRIDDLE.

(2) PROCEDURAL FACTORS: Consider the possible effect of regulations, operations, and processes from all levels in the chain of command. Remember that a person not following written procedures is a human factor, not a procedural factor.

Procedures and policies published by higher authority such as PMS, technical manuals, Naval Warfare Publications (NWP), Navy Tactical Publications (NTP), U.S. Navy Diving Manual, Operational Orders (OPORDs), Ordnance Publications (OP), the Safe Engineering and Operations of LCAC (SEAOPS) Manual, and the commanding officer's standing orders may contain procedural errors.

(A) TOO COMPLEX (For example, the average sailor can't follow the written procedures because he or she can't understand or follow them):

(B) NOT AVAILABLE (For example, written procedures don't exist or have not been received):

(C) INCORRECT

((1)) NOT VALIDATED FOR SHIP OR EQUIPMENT

((2)) NOT UPDATED (Although the written procedures were correct in the past, modifications or alterations to the ship or equipment require changes to the procedures)

((3)) STEP MISSING OR OUT OF SEQUENCE

Example: PROCEDURAL FACTOR, INCORRECT, NOT UPDATED. DUE TO MODIFICATIONS, TECH MANUAL PROCEDURES FOR DISCONNECTING HYDRAULIC HOSES WERE INCORRECT.

(3) MATERIAL FACTORS: Consider all material failures and malfunctions thoroughly, despite whether the failures or malfunctions occurred because of normal or abnormal means. This category includes failure due to improper repair or normal wear and tear.

(A) UNAUTHORIZED (For example, alterations made to the ship or equipment without authority):

(B) SAFETIES/GUARDS FAILED:

(C) CONDITION (For example, rust or corrosion):

(D) INAPPROPRIATE FOR USE (For example, off-the-shelf purchases that don't work)

(E) INSTALLATION/REPAIR FAULTY

(F) DEFECTIVE

(G) NORMAL WEAR AND TEAR (Normally, wear and tear is not a reportable mishap. However, the investigation may lead to this cause and is worth reporting.):

Example: MATERIAL/EQUIPMENT FACTOR, SAFETIES/GUARDS FAILED. LUBE OIL RELIEF VALVE FAILED TO OPEN.

(4) DESIGN FACTORS: Consider whether a design defect caused the mishap.

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(A) HAZARD TO PERSONNEL (For example, anything involving design creating a hazard to personnel):

(B) HAZARD TO EQUIPMENT (For example, design that causes damage to equipment):

(C) MAINTAINABILITY (For example, the design makes it so difficult to accomplish the maintenance that it isn't completed or sailors are injured while doing the maintenance):

Example: DESIGN FACTOR, MAINTAINABILITY. EYE WASH STATION WAS OOC BECAUSE ITS LOCATION PROHIBITED TIMELY PMS.

E. ECHO (PRIVILEGED): NARRATIVE (Chain of events leading up to, through, and after the mishap. Explain how each cause in paragraph DELTA contributed to the mishap. Be specific. Identify which of the causes in paragraph DELTA you determine to be the root (or primary) cause of this mishap. Give recommendations and lessons learned.//

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(R)

MESSAGE FORMAT

DIVING MISHAP (not requiring hyperbaric treatment)
REPORT SYMBOL OPNAV 5102-5

(For on-duty Class B and C reportable mishaps not requiring hyperbaric treatment.)

1. General

Use this format to report Class B or C diving mishaps involving property damage, personnel injury and lost-time cases without hyperbaric treatment. Submit as much of the information as available in the initial report. Submit supplementary reports to supply missing information. Where the requested data are not applicable or are not relevant to the analysis of the mishap, insert "Not Applicable" or "N/A." Avoid using "unknown" unless you give the reason for not having the information.

2. Content and Format

(Precedence - normally ROUTINE).

FM REPORTING ACTIVITY

TO COMNAVSAFECEN NORFOLK VA//30/37/054//

INFO COMNAVSEASYS COM WASHINGTON DC//00C//
NAVXDIVINGU PANAMA CITY FL//02//
BUMED WASHINGTON DC//21//

(Others as desired, directed, or requested, by higher authority)

UNCLAS FOUO //N05102//

MSGID/GENADMIN/MSG ORIG/SER NO./MONTH//

SUBJ/DIVING MISHAP REPORT (REPORT SYMBOL 5102-5)//

REF/A/DOC/CNO/22MAR1993//

REF/B/DOC/CNO/30AUG2001//

REF/C/ (If this is a follow-up message, include the DTGs of all previous reports.)

NARR/REF A IS OPNAVINST 3150.27A, NAVY DIVING PROGRAM. REF B IS OPNAVINST 5100.19D CH-1, NAVOSH PROGRAM MANUAL FOR FORCES AFLOAT. THIS REPORT IS FOR OFFICIAL USE ONLY. THIS IS A PRIVILEGED, CONTROLLED DISTRIBUTION, SAFETY MISHAP REPORT. UNAUTHORIZED DISCLOSURE OF THE INFORMATION IN THIS REPORT BY MILITARY PERSONNEL IS A CRIMINAL OFFENSE PUNISHABLE UNDER ARTICLE 92, UNIFORM CODE OF MILITARY JUSTICE. UNAUTHORIZED DISCLOSURE OF THE INFORMATION IN THIS REPORT BY CIVILIAN PERSONNEL WILL SUBJECT THEM TO DISCIPLINARY ACTION UNDER CIVILIAN PERSONNEL INSTRUCTION 752. SEE CHAPTER A6 OF OPNAVINST 5100.19D FOR RESTRICTIONS.//

POC/name/rank/primary phone/-/location/secondary phone/e-mail address// (POC should be the DMO, DMT or MDV responsible for making the diagnosis and conducting the treatment)

RMKS/1. PER REFS A AND B, THE FOLLOWING INFORMATION IS SUBMITTED:

A. ALPHA (NON-PRIVILEGED):

Appendix A6-N

Enclosure (1)

(1) UIC OF REPORTING ACTIVITY

(2) TYPE OF MISHAP (For example, equipment damage or personnel injury involving 5 days (1 day for embarked Marines) or more lost work time. Diving injuries may include: Barotrauma, CNS Oxygen toxicity, carbon dioxide intoxication, hypoxia, hypothermia or hypothermia, chemical burns, injury related to acute underwater noise exposure or blast, illness related to diving in polluted water, accidental radiation exposure, trauma other than minor cuts, scrapes, bruises or strains.)

(3) LOCAL DATE AND TIME OF MISHAP

(4) UIC OF DIVER'S PARENT ACTIVITY

(5) EVOLUTION AT TIME OF MISHAP (Brief scenario of diving operation. If mishap occurred during formal Navy training, include the course identification number (CIN).

(6) DIVE LOCATION (Choose one of the following):

- (A) Open water
- (B) Chamber
- (C) Training tank or pool

B. BRAVO (NON-PRIVILEGED) DIVE DATA:

(1) DIVING SYSTEM AND APPARATUS USED (Include type of diving system employed and description of equipment malfunction, if applicable.)

(2) SOURCE OF GAS SUPPLY (Choose from one of the following)

- (A) Compressor
- (B) Air banks
- (C) Gas banks
- (D) Bottles man carried
- (E) Mix maker
- (F) Other (please describe)

(3) BREATHING GAS PERCENTAGE (For example: 79% N2/21% O2, 100% O2, and 87% HE/13% O2).

(34) LOCAL TIME LEFT SURFACE (Use 24-hour clock. For example, 0630 and 1800).

(5) MAXIMUM DEPTH OF DIVE IN FEET, SALT WATER (FSW)

(6) BOTTOM TIME AND SCHEDULE. IF REPETITIVE DIVE, LIST DEPTHS, BOTTOM TIMES, SURFACE INTERVALS AND SCHEDULES OF ALL DIVES.

(7) LOCAL TIME REACHED SURFACE (Use 24-hour clock. For example, 0800, 0930, and 1500).

(8) TOTAL DECOMPRESSION TIME OF DIVE

(9) AIR TEMP/WATER TEMP/PURPOSE OF DIVE/DIVE PLATFORM

(10) TYPE OF DRESS

(11) SATURATION DIVE DATA: COMPRESSION RATES TO DEPTHS AS FEET PER MINUTE (FPM) TO FSW (For example, for a 700 FSW dive: 30 FPM TO 100 FSW/20 FPM TO 250 FSW/3 FPM TO 700 FSW)

(A) STORAGE ATMOSPHERE IN FSW

(B) CHAMBER ATMOSPHERE IN OXYGEN PARTIAL PRESSURE (MINIMUM AND MAXIMUM)

(C) MINIMUM EXCURSION DEPTH ATTAINED (IN FSW)

(D) MAXIMUM EXCURSION DEPTH ATTAINED (IN FSW)

B1. BRAVO (NON-PRIVILEGED) EQUIPMENT DAMAGED, DESTROYED, or LOST:

(1) EQUIPMENT OR CRAFT DAMAGED OR DESTROYED BY THE MISHAP (include EIC, TEC, or NSN if applicable, describe damage)

(2) ESTIMATED COST TO REPAIR OR REPLACE DoD PROPERTY Provide the total dollar value, UIC, and name of command having custody of the property (if different from reporting activity) and RUC (reporting unit code) if USMC equipment is involved. To determine the cost of repair or replacement of all DoD property involved in the mishap, use actual cost of materials or estimates provided by the repair activity. If necessary, use estimates based on the actual cost of materials and \$18 for each hour of organizational- or intermediate-level labor or \$60 for each hour of depot-level labor.

(3) ESTIMATED COST OF NON-DoD PROPERTY DAMAGE

(4) NUMBER OF OPERATING DAYS LOST

C. CHARLIE (NON-PRIVILEGED): REPORTABLE INJURIES

(1) NAME/SSN/NOBC OR NEC/AGE/SEX/RACE/HEIGHT/WEIGHT

(2) RANK or RATE/DESIGNATOR/PAY GRADE/SERVICE and UIC (Include UIC if different from reporting activity)

(3) ONSET OF SYMPTOMS (month/day/local time/depth) Use two digits for month and day, four digits for time (24-hour clock), and four digits for depth. (For example, 03/10/1525/0025).

(4) INITIAL DIAGNOSIS (for example, CNS oxygen toxicity, Carbon dioxide poisoning, barotrauma. In addition, list who made the initial diagnosis. A typical entry would read: Chemical burn by MDV)

(5) FINAL DIAGNOSIS (This is the final diagnosis attached to the case after all treatments, laboratory tests, x-rays, scans, psychometric tests, etc., have been completed and evaluated. If the report is preliminary, state, "Pending." In addition, indicate who made the final diagnosis)

(6) MEDICAL TREATMENT

(7) TREATMENT OUTCOME

(8) TREATED BY (For example, MDV, DMO, or DMT)

(9) TOTAL NUMBER OF DAYS AWAY FROM WORK (estimated)

(10) TOTAL NUMBER OF DAYS RESTRICTED FROM DIVING

D. DELTA: CAUSES OF MISHAP (PRIVILEGED - CONTAINS THE COMMAND'S DELIBERATIVE EVALUATION) (State each cause of damage and injury with a short rationale. Causes should be one of the four major categories listed below, with subcategories as listed. Omit those categories and subcategories that don't apply and include as many causes in each category you determine apply. In

paragraph ECHO, identify which of the causes you determine to be the root (or primary) cause of this mishap.)

(1) HUMAN FACTORS (PERSONNEL ERROR): Consider human involvement in the events leading up to a mishap, actions taken as the mishap is occurring, and actions taken after the mishap occurred. For mishaps involving personnel error, state each cause with a brief explanation in one of the subcategories listed below.

(A) UNSAFE ACTS

- ((1)) ERRORS (MISTAKES OR UNINTENTIONAL ACTS):
- ((2)) VIOLATIONS (DELIBERATE BEHAVIOR THAT BREAKS ESTABLISHED RULES):

(B) UNSAFE SUPERVISION

- ((1)) INADEQUATE (Unintentional mistakes or failures by supervisors including the supervisor's absence)
- ((2)) VIOLATIONS (Deliberate rule breaking or disregard of authority by supervisors)

(C) UNSAFE CREW CONDITIONS

- ((1)) ADVERSE PHYSIOLOGICAL STATE (For example, physical fatigue, illness, intoxication, and obesity)
- ((2)) ADVERSE MENTAL STATE (For example, overconfidence, complacency, sleep loss, mental fatigue, and stress)
- ((3)) CREW RESOURCE MANAGEMENT (For example, poor team coordination and ineffective communications)

(D) ORGANIZATIONAL INFLUENCE

- ((1)) EXTERNAL (FACTORS CONTROLLED BY SOURCES OUTSIDE THE SHIP)
- ((2)) INTERNAL (FACTORS CONTROLLED BY THE COMMANDING OFFICER SUCH AS WATCHBILL ASSIGNMENTS)

Example: HUMAN FACTOR, UNSAFE ACT, ERROR. MS3 FAILED TO TAG OUT GRIDDLE.

(2) PROCEDURAL FACTORS: Consider the possible effect of regulations, operations, and processes from all levels in the chain of command. Remember that a person not following written procedures is a human factor, not a procedural factor.

Procedures and policies published by higher authority such as PMS, technical manuals, Naval Warfare Publications (NWP), Navy Tactical Publications (NTP), U.S. Navy Diving Manual, Operational Orders (OPORDs), Ordnance Publications (OP), the Safe Engineering and Operations of LCAC (SEAOPS) Manual, and the commanding officer's standing orders may contain procedural errors.

(A) TOO COMPLEX (For example, the average sailor can't follow the written procedures because he or she can't understand or follow them):

(B) NOT AVAILABLE (For example, written procedures don't exist or have not been received):

(C) INCORRECT

- ((1)) NOT VALIDATED FOR SHIP OR EQUIPMENT
- ((2)) NOT UPDATED (Although the written procedures were correct in the past, modifications or alterations to the ship or equipment require changes to the procedures)
- ((3)) STEP MISSING OR OUT OF SEQUENCE

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Example: PROCEDURAL FACTOR, INCORRECT, NOT UPDATED. DUE TO MODIFICATIONS, TECH MANUAL PROCEDURES FOR DISCONNECTING HYDRAULIC HOSES WERE INCORRECT.

(3) MATERIAL FACTORS: Consider all material failures and malfunctions thoroughly, despite whether the failures or malfunctions occurred because of normal or abnormal means. This category includes failure due to improper repair or normal wear and tear.

(A) UNAUTHORIZED (For example, alterations made to the ship or equipment without authority):

(B) SAFETIES/GUARDS FAILED:

(C) CONDITION (For example, rust or corrosion):

(D) INAPPROPRIATE FOR USE (For example, off-the-shelf purchases that don't work)

(E) INSTALLATION/REPAIR FAULTY

(F) DEFECTIVE

(G) NORMAL WEAR AND TEAR (Normally, wear and tear is not a reportable mishap. However, the investigation may lead to this cause and is worth reporting.):

Example: MATERIAL/EQUIPMENT FACTOR, SAFETIES/GUARDS FAILED. LUBE OIL RELIEF VALVE FAILED TO OPEN.

(4) DESIGN FACTORS: Consider whether a design defect caused the mishap.

(A) HAZARD TO PERSONNEL (For example, anything involving design creating a hazard to personnel):

(B) HAZARD TO EQUIPMENT (For example, design that causes damage to equipment):

(C) MAINTAINABILITY (For example, the design makes it so difficult to accomplish the maintenance that it isn't completed or sailors are injured while doing the maintenance):

Example: DESIGN FACTOR, MAINTAINABILITY. EYE WASH STATION WAS OOC BECAUSE ITS LOCATION PROHIBITED TIMELY PMS.

E. ECHO (PRIVILEGED): NARRATIVE (Chain of events leading up to, through, and after the mishap. Be specific. Identify which of the causes in paragraph DELTA you determine to be the root (or primary) cause of this mishap. Give recommendations and lessons learned.//

BT

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OPNAV 5100/17 (5-99)	Heat Stress Monitoring Sheet	0107-LF-016-9500
OPNAV 5100/18 (12-93)	Navy Used Hazardous Material Identification Label	0107-LF-016-9100
OPNAV 5102/4 (10/92)	SAFETYGRAM	0107-LF-015-8400
OPNAV 6260/2 (10/78)	Caution - Asbestos Dust Hazard Sign	0107-LF-062-6010

d. The following forms may be locally reproduced: OPNAV 5102/10 (2-98), Advice to Witness; OPNAV 5102/11 (2-98), Advice to Witness Promise of Confidentiality.

e. The following form is available from the General Services Administration (GSA):

<u>FORM</u>	<u>TITLE</u>	<u>STOCK NUMBER</u>
SF 600 (5/84)	Chronological Record of Medical Care	7540-00-634-4176

Distribution:

SNDL	21A	(Fleet Commanders in Chief)
	22A	(Fleet Commanders)
	23	(Force Commanders)
	24	(Type Commanders)
	26A	(Amphibious Group)
	26B	(Surface Reserve Force Representatives and Detachment)
	26E	(Amphibious Unit)
	26F	(Operational Test and Evaluation Force)
	26H	(Fleet Training Groups and Detachments)
	26J	(Afloat Training Group and Detachment)
	26U	(Surface Force Readiness Support Group)
	26W	(Cargo Handling and Port Group and Reserve Cargo Handling Training Battalion)
	26GG	(Explosive Ordnance Disposal Mobile Group and Unit) (EODGRU NINE Det. Fallon, only)
	28	(Squadron, Division, and Group Commanders - Ships) (less 28K)
	29	(Warships) (less 29B, 29M2, 29N, 29P2, 29Q, and 29S)
	29B	(Aircraft Carrier) (CV) (CVN)
	30	(Mine Warfare Ships)
	31	(Amphibious Warfare Ships)
	32	(Auxiliary Ships)
	36	(Service Craft)

CHAPTER A4

HAZARD CONTROL AND DEFICIENCY ABATEMENT

A0401. DISCUSSION

There are three methods of controlling the impact of hazards. The first, and preferred, is to prevent the hazard at the design stage. The second, is to identify and eliminate existing hazards. The third is to reduce the likelihood and severity of mishaps from hazards that cannot be eliminated.

A0402. HAZARD PREVENTION

Hazards may be prevented through appropriate actions during the design process, when operating procedures are developed and when equipment is purchased. Since many effective actions such as system safety reviews, design reviews, and the development of operating and purchasing procedures are the responsibility of the Systems Commands, only those actions which can be taken at the shipboard level to prevent hazards will be addressed.

a. Preventive Maintenance. Some hazards arise as the result of an inadequate preventive maintenance program. An effective shipboard preventive maintenance program can keep equipment and material from degrading to the point where it becomes an operational hazard.

b. Operating Procedures. Standard operating procedures (SOPs), instructions, or similar directives that are issued to identify the manner in which work is to be performed can prevent hazards from occurring. Obvious examples include tank cleaning, foul weather operations, and asbestos removal. Personnel must be familiar with the appropriate SOPs and current updates applicable to their duties.

c. Purchasing Procedures. Many hazards may be prevented by incorporating appropriate specifications into purchase orders for equipment/material. Normally, ship personnel have little control over specifications for equipment/material purchased through the Navy supply system. However, since a considerable amount of material/equipment is locally purchased, the ship can prevent hazards by purchasing the proper types of material and the proper amounts. Hazardous material is of special concern. Accomplished per paragraph C2302 of this manual, all local purchases of potentially hazardous material.

(R)

A0403. PRINCIPLES OF HAZARD CONTROL

Deficiency abatement will help control the frequency and severity of mishaps for those hazards which are impossible to eliminate in the operational environment. Short of complete elimination of the hazard, methods of hazard control, in order of preferred application, are substitution, engineering controls, administrative controls, and use of personal protective equipment.

a. Substitution. The risk of injury or illness may be reduced by replacement of an existing process, material, or equipment with a similar item having a lower hazard potential. Care must be exercised in any substitution to ensure that the substitute materials are technically acceptable and that a new hazard is not being introduced.

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The privileged status of an MR, MIR, or endorsement shall not restrict the dissemination of essential safety information by COMNAVSAFECEN or the type commanders. When an MR, MIR, or MIRE contains essential safety information based on privileged or personal information, and the information has not been adequately distributed to those in need of the information, COMNAVSAFECEN or the type commanders shall take one or more of the following actions (listed in order of preference):

(R)

a. Readdress. Readdress the entire MR, MIR, or MIRE (COMNAVSAFECEN only). COMNAVSAFECEN shall take this action immediately upon receipt of an MIR to ensure all fleet and type commanders and other appropriate senior Navy commanders are aware of the mishap investigation board's analysis of the mishap. (COMNAVSAFECEN only)

(R)

b. Expunge. Scrub or sanitize identifying information from the MR, MIR, or MIRE that could link the report with an individual, organization, or mishap, and disseminate the remaining information in the report. COMNAVSAFECEN shall take this action as soon as practical upon receipt of the MIR and transmission of the COMNAVSAFECEN MIRE to ensure appropriate afloat commanding officers are aware of the details of the mishap and the endorsements. (COMNAVSAFECEN only)

(R)

c. Extract. Extract the essential safety information from the report and disseminate it appropriately. (COMNAVSAFECEN or type commanders)

7. Release of Program Information. The release of information in MIRs, MRs, or MIREs shall be as specified in this paragraph, unless otherwise authorized by CNO (N09F). The release of information on motor vehicle (MV) or off duty recreation, athletics, and home mishaps shall be per reference A6-4.

(R)

a. Protection of Privacy Information. To protect the privacy right of individuals, the names of individuals not involved in the mishaps and the social security numbers of all individuals in the report shall not be furnished under exemption (b) (6) of the Freedom of Information Act (FOIA). To protect the privacy rights of surviving family members, photographs of human remains included in the autopsy reports shall not be provided per exemption (b) (6).

b. Release Based on the Freedom of Information Act. Either expressed or implied requests for information made under the FOIA shall be sent to COMNAVSAFECEN, Attention: Code 03.

c. Release Based on the Privacy Act of 1974. Information in MIRs or MRs shall not be maintained in a system of records subject to the Privacy Act. Specifically, the information must not be retrievable by the name of an individual, or by social security number, or other identifying number, symbol, or unique identifier associated with an individual. Forward Privacy Act requests for information pertaining to an individual to COMNAVSAFECEN, Attention: Code 03.

d. Release by an Individual Having Knowledge of Mishap Investigation Reports and Mishap Reports. An individual having knowledge of the contents of an MIR or MR is prohibited from disclosing the information, except as authorized by this chapter. If anyone asks for information from any individual having knowledge of the contents of an MIR or MR, that individual should immediately contact COMNAVSAFECEN, Attention: Code 03.

Appendix A6-B

Sample Message to Appointing Authority/Fleet/Type Commander

FM Type Commander/Fleet Commander/
TO Appointing Authority (ISIC)/Fleet/Type Commander

INFO All MIR endorsers (if known)
Mishap ship(s)
ISIC
COMNAVSAFECEN NORFOLK VA//30/054//
Other appropriate commands

UNCLAS //N05102//

MSGID/GENADMIN/originator//

SUBJ/CONVENING MISHAP INVESTIGATION BOARD//

REF/A/OPREP-3/Mishap ship/DTG//
REF/B/DOC/CNO/30AUG01//
NARR/REF B IS OPNAVINST 5100.19D CH-1, NAVOSH PROGRAM MANUAL FOR FORCES AFLOAT//
POC/name/rank/primary phone/-/Type Commander/secondary phone//
POC/S. V. SCUDDER/GS12/NAVSAFECEN 39/LOC: Norfolk/TEL: DSN 564-3520, Ext
7115/EMAIL: sscudder@safetycenter.navy.mil//

(R)

RMKS/1. REF A REPORTED A POSSIBLE CLASS A MISHAP INVOLVING USS SHIP. A
MISHAP INVESTIGATION BOARD MAY BE REQUIRED IF THE MISHAP MEETS THE CRITERIA
FOR A CLASS A MISHAP. THIS INCLUDES:

- A. A DEATH, OR
- B. AN INJURY RESULTING IN PERMANENT TOTAL DISABILITY, OR
- C. THE TOTAL COST OF REPORTABLE DAMAGE IS \$1,000,000 OR MORE.

2. IF YOU DETERMINE THE MISHAP MEETS CLASS A SEVERITY, ACCORDING TO REF B
YOU MUST APPOINT A MISHAP INVESTIGATION BOARD. MEMBERS OF THE MISHAP
INVESTIGATION BOARD CAN NOT BE ASSIGNED TO ANY OTHER INVESTIGATION (JAGMAN,
BOARD OF INQUIRY) INTO THE MISHAP.

3. THE NAVAL SAFETY CENTER IS STANDING BY TO SEND AN ADVISOR TO ASSIST THE
BOARD IN THE INVESTIGATION. THEY NEED TO KNOW WHEN AND WHERE THE BOARD WILL
CONVENE. HAVE YOUR SAFETY OFFICER CONTACT THEM BY PHONE OR EMAIL.

4. IF THE BOARD NEEDS TECHNICAL ASSISTANCE, THE SENIOR MEMBER MUST REQUEST
ASSISTANCE THROUGH THE TYCOM.

(R)

5. UPON COMPLETION OF THE INVESTIGATION, THE SENIOR MEMBER SHOULD SEND THE
MISHAP INVESTIGATION REPORT TO THE FOLLOWING MINIMUM ENDORSERS:

- A. MISHAP SHIP
- B. ISIC
- C. TYCOM
- D. COMNAVSAFECEN

(A)

6. NOTIFY TYCOM AND NAVAL SAFETY CENTER IF DECISION IS MADE NOT TO COMMENCE
AN MIB.
BT

Appendix A6-E

**Sample Message Format
Mishap Investigation Report (MIR)
Report Symbol OPNAV 5102-7**

Use the format and content below for reporting the results of the MIB. If a particular paragraph or line does not apply to this report, mark that section "N/A". Send the report as a naval message:

(Precedence - normally ROUTINE)

FM Releasing command (Normally the senior member's command)

TO Mishap ship(s)

ISIC

Group Commander (when required)

Type Commander

Other endorsers

PEO EXW WASHINGTON DC//PMS377// (LCAC only)

(R)

Systems Command//appropriate office code// (When determined by senior member or other endorser)

CMC WASHINGTON DC//SD// (When a Marine or U.S.M.C equipment is involved)

(R)

COMSC WASHINGTON DC//N00/N00S/PM1/PM2/PM3// (When MSC personnel or equipment is involved)

Fleet Commander (when required)

All commands assigned action on a recommendation

COMNAVSAFECEN NORFOLK VA//30/054//

INFO NAVSURFWARCEN COASTALSTA PANAMA CITY FL//41// (LCAC ONLY)

CNO WASHINGTON DC//N7/N76D/N771D/N785/N889E1/N09/N45//

Fleet Commander (when not an action addressee)

Group Commander (when not an action addressee)

(A)

ACU FOUR (LCAC only)

ACU FIVE (LCAC only)

(A)

(If the mishap involves explosives or explosive systems or equipment, include addressees provided by COMNAVSAFECEN.)

FOUO //N05102//DISTRIBUTE ONLY TO THE COMMANDER OR OFFICE CODE(S) FOLLOWING EACH ADDRESSEE.

MSGID/GENADMIN/MSG ORIG/SER NO./MONTH//

SUBJ/(AFLOAT MISHAP INVESTIGATION REPORT (MIR))//

REF/A/(OPREP-3 or any other messages related to the mishap)//

REF/B/DOC/CNO/05OCT00//

(R)

REF/C/GENADMIN/ INVENTORY OF EVIDENCE MSG//

NARR/REF A IS THE INITIAL OPREP-3 CONCERNING THE MISHAP. REF B IS OPNAVINST

5100.19D, NAVOSH PROGRAM MANUAL FOR FORCES AFLOAT. REF C IS THE MIR

(R)

INVENTORY OF EVIDENCE. THIS REPORT IS FOR OFFICIAL USE ONLY. THIS IS A

PRIVILEGED, LIMITED USE, CONTROLLED DISTRIBUTION, SAFETY MISHAP INVESTIGATION

REPORT. UNAUTHORIZED DISCLOSURE OF THE INFORMATION IN THIS REPORT BY

MILITARY PERSONNEL IS A CRIMINAL OFFENSE PUNISHABLE UNDER ARTICLE 92, UNIFORM

CODE OF MILITARY JUSTICE. UNAUTHORIZED DISCLOSURE OF THE INFORMATION IN THIS

REPORT BY CIVILIAN PERSONNEL WILL SUBJECT THEM TO

Appendix A6-E

Enclosure (1)

OPNAVINST 5100.19D CH-1
30 August 2001

DISCIPLINARY ACTION UNDER CIVILIAN PERSONNEL INSTRUCTION 752. SEE CHAPTER A6
OF OPNAVINST 5100.19D FOR RESTRICTIONS.//

POC/NAME/RANK/COMMAND/LOC:/TEL:/EMAIL//
RMKS/ALPHA: (NONPRIVILEGED)

1. UICs OF MISHAP COMMANDs
2. HULL NUMBER/SIDE NUMBER
3. TYPE OF MISHAP (For example, flooding, fire, injury, electric shock, death, collision, grounding, explosion, back injury, chemical or toxic exposure, or equipment damage.)
4. LOCAL TIME AND DATE OF MISHAP
5. GEOGRAPHIC LOCATION (Latitude/Longitude or Port. If classified, give general area.)
6. WEATHER CONDITIONS (For example, temperature, relative humidity, visibility, lighting, ventilation, air quality, wind speed, sea state, current, tide, wind direction, precipitation, lightning, ducting, hurricane, and other.)
7. LOCATION WHERE MISHAP OCCURRED (Give workcenter or description of the location. For example, torpedo room; main deck, compartment number, side and frame number, mess decks, flight deck, or 76mm gun magazine.)
8. SHIP OR CRAFT'S EVOLUTION AT THE TIME OF MISHAP (For example, underway replenishment, mooring, and on-cushion approach to beach.)
9. SEA STATE AND DIRECTION (EXAMPLE: SEA STATE 3, 340T)
10. SHIP'S EMPLOYMENT (For example, type training (TYT), refit, independent steaming exercises (ISE), maintenance availability, underway, anchored, submerged, or dry-docked.)
11. PAYLOAD (LCAC-ONLY) (For example, type cargo and load weight)
12. SENIOR MEMBER and COMMAND (Include telephone number, if available.)
13. EQUIPMENT OR CRAFT DAMAGED OR DESTROYED BY THE MISHAP (If applicable, include EIC, TEC, FGC (functional group code), or NSN (if applicable); describe damage. (EXAMPLE: STARBOARD FAIRWATER PLANE DAMAGED SHT DAMAGED STARBOARD SIDE, RUDDER DAMAGED, ONE AN/BRA-34 ANTENA DAMAGED.)
- R) 14. ESTIMATED COST TO REPAIR OR REPLACE DOD PROPERTY Provide the total dollar value, UIC, and name of command having custody of the property (if different from reporting activity) and reporting unit code (RUC) if USMC equipment is involved. To determine the cost of repair or replacement of all DOD property involved in mishap, use actual cost of materials or estimates provided by the repair activity. If necessary, use estimates based on the actual cost of materials and \$18 for each hour of organizational- or intermediate-level labor or \$60 for each hour of depot-level labor.
- R) 15. ESTIMATED COST OF NON-DOD PROPERTY DAMAGE

16. NUMBER OF SCHEDULED OPERATING DAYS LOST

17. NAME/SSN/AGE/SEX/RACE/ (Repeat items 17 through 24 with designators 17A, 17B, etc.) if the mishap involves reportable injuries to more than one person.

18. RANK and DESIGNATOR or RATE and NEC, JOB AND EMPLOYMENT STATUS (Examples of employment status include USN, USNR, USNR-R, other Department of Defense personnel, Navy federal civil servants, contractors, foreign military exchange personnel, and foreign civilians.)

19. DUTY STATUS (On- or off-duty.) and UIC (if different from reporting activity), and RUC (reporting unit code) if Marines are involved. (If the mishap involves injuries to people from different commands, specify the UIC of each individual.) CREW POSITION - LCAC ONLY.

20. SPECIFIC JOB OR ACTIVITY INDIVIDUAL ENGAGED IN AT TIME OF MISHAP (For example, conducting PMS, standing watch, loading stores, training, and boat crew.)

21. NUMBER OF MONTHS EXPERIENCE AT THE JOB OR ACTIVITY (in paragraph 20)

22. MEDICAL DIAGNOSIS (Include parts of body and type of injury.)

23. FATALITY, EXTENT OF INJURIES, AND PROGNOSIS FOR DISABILITY (Specify fatality, missing, permanent total disability, permanent partial disability, or no disability likely. See paragraph A0601d for explanation of terms.)

24. ESTIMATE OF LOST TIME

A. TOTAL NUMBER OF DAYS AWAY FROM JOB (Lost work days)/DAYS LOST BEFORE PERMANENT LOSS TO COMMAND (If a loss to command-disposition)

B. DAYS IN HOSPITAL OR SICK BAY

C. DAYS OF LIGHT OR LIMITED DUTY

25. ACRONYMS. (Include a list of acronyms with meaning spelled out if used in the MIR.) EXAMPLE: AAWC-ANTI-AIR WARFARE COORDINATOR.

(R)

26. RISK ASSESSMENT CODE (RAC) (optional).

(A)

BRAVO (PRIVILEGED) (Contains the MIB's deliberative evaluation.)

1. BRIEF DESCRIPTION OF THE MISHAP (Include an "executive summary" of the events leading up to, through, and after the mishap. Include which one of the causes in paragraph Bravo 5A (Probable Cause(s) of the Mishap) is the root (or primary) cause of this mishap.)

2. SUMMARY OF EVIDENCE AND TESTIMONY ANALYZED (Include the date and the registered number of evidence package sent to COMNAVSAFECEN and the date (if different) copies of the inventory were sent all endorsers), and DTG of Inventory Message.

3. DETAILED SEQUENCE OF EVENTS

4. OPINIONS OF THE MISHAP INVESTIGATION BOARD (AS APPLICABLE)

- A. THE ADEQUACY AND USE OF APPROVED PROCEDURES
- B. THE QUALIFICATIONS OF THE PEOPLE INVOLVED
- C. THE STATE OF TRAINING OF THE PEOPLE INVOLVED AND OF THE CREW IN COMBATING THE MISHAP
- R) D. THE EFFECTIVENESS OF SUPERVISION
- R) E. THE EFFECTIVENESS OF THE QUALITY ASSURANCE PROGRAM, WHERE APPLICABLE
- A) F. THE EFFECTIVENESS OF THE DAMAGE CONTROL EFFORTS
- A) G. THE ROLE OF PREVENTIVE AND CORRECTIVE MAINTENANCE PLAYED IN THE MISHAP
- A) H. ANY EXISTING MATERIAL DEFICIENCIES OR SHORTCOMINGS WHICH MAY HAVE CONTRIBUTED TO THE MISHAP

5. ANALYSIS OF FINDINGS

A. PROBABLE CAUSE(S) OF THE MISHAP (State each cause of damage and injury with a short (less than 100 characters) rationale. The rationale is critical to identifying the cause because it links it to "WHO" or "WHAT" was involved. Causes should be one of the four major categories listed below, with subcategories as listed. Omit those categories and subcategories that don't apply and include as many causes in each category you determine apply. In paragraph BRAVO 1, Brief Description of the Mishap, identify which of the causes you determine to be the root (or primary) cause of this mishap.)

(1) HUMAN FACTORS (PERSONNEL ERROR): Consider human involvement in the events leading up to a mishap, actions taken as the mishap is occurring, and actions taken after the mishap occurred. For mishaps involving human factors, state each cause with a brief explanation in one of the subcategories listed below.

(A) UNSAFE ACTS

((1)) ERRORS (Mistakes or unintentional acts):

((2)) VIOLATIONS (Deliberate behavior that breaks established rules):

(B) UNSAFE SUPERVISION

((1)) INADEQUATE (Unintentional mistakes or failures by supervisors including the supervisor's absence)

((2)) VIOLATIONS (Deliberate rule breaking or disregard of authority by supervisors)

(C) UNSAFE CREW CONDITIONS

((1)) ADVERSE PHYSIOLOGICAL STATE (For example, physical fatigue, illness, intoxication, and obesity)

((2)) ADVERSE MENTAL STATE (For example, overconfidence, complacency, sleep loss, mental fatigue, and stress)

((3)) CREW RESOURCE MANAGEMENT (For example, poor team coordination and ineffective communications)

(D) ORGANIZATIONAL INFLUENCE

((1)) EXTERNAL (Factors controlled by sources outside the ship)
((2)) INTERNAL (Factors controlled by the commanding officer (or below) such as watchbill assignments)

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EXAMPLE: MATERIAL/EQUIPMENT FACTOR, SAFETIES/GUARDS FAILED. LUBE OIL RELIEF VALVE FAILED TO OPEN.

(4) DESIGN FACTORS: Consider whether a design defect caused the mishap.

(A) HAZARD TO PERSONNEL (For example, anything involving design creating a hazard to personnel):

(B) HAZARD TO EQUIPMENT (For example, design that causes damage to equipment):

(C) MAINTAINABILITY (For example, the design makes it so difficult to accomplish the maintenance that it isn't completed or sailors are injured while doing the maintenance):

EXAMPLE: DESIGN FACTOR, MAINTAINABILITY. EYE WASH STATION WAS OOC BECAUSE ITS LOCATION PROHIBITED TIMELY PMS.

R) B. OTHER CAUSES CONSIDERED BUT REJECTED (State each possible cause of damage and injury rejected by the MIB with a short rationale.) EXAMPLE: UNSAFE CREW CONDITION, ADVERSE PHYSIOLOGICAL STATE: FATIGUE WAS NOT DEEMED TO BE A CAUSE. WATCHSTANDERS IN INTERVIEWS INDICATED FATIGUE DID NOT CONTRIBUTE TO POOR PERFORMANCE.

6. RECOMMENDATIONS (State recommendations for changes in procedure, equipment, or training, to prevent the recurrence of the mishap. Include the MIB's recommended action agency for each recommendation and the proposed lessons learned.) EXAMPLE:

A. USS NEVERSAIL:

(1) INSTITUTE OPERATIONAL RISK MANAGEMENT AS A TOOL FOR SAFETY DURING ALL EVOLUTIONS.

R) (2) REQUALIFY BRIDGE/CIC WATCHSTANDERS

B. COMNAVSEASYSOM: DEVELOP OPTIONS AND PLANS FOR INSTALLATION OF VOICE ACTIVATED RECORDING SYSTEMS FOR VHF-FM RADIOS ON ALL SHIPS.

Appendix A6-F

Sample MIR Inventory Of Evidence

FM: RELEASING COMMAND

TO: MISHAP SHIP(2)
ISIC
OTHER ENDORSERS
COMNAVSEASYS COM WASHINGTON DC//03L//00T/03M/03P/03Z//
COMNAVSAFECEN NORFOLK VA//30//054//

(R)

UNCLAS FOUO//N05/00//
MSGID/GENADMIN/RELEASING COMMAND//
SUBJ/AFLOAT MISHAP INVESTIGATION REPORT (MIR) INVENTORY OF EVIDENCE//

(R)

REF/A/DOC/CNO/30AUG01
REF/B/GENADMIN/RELEASING CMD/DTG OF MIR//

NARR/REF A IS OPNAVINST 5100.19D CH-1 NAVOSH PROGRAM MANUAL FOR FORCES AFLOAT .
REF B IS MISHAP INVESTIGATION REPORT//

(R)

POC/NAME/RANK/COMMAND/LOCATION/TELEPHONE NUMBER/EMAIL//

(A)

RMKS// 1. ACCORDING TO REF A, THE MISHAP INVESTIGATION BOARD CONVENED ON
(DATE) AND COMPLETED ITS DELIBERATIONS ON (DATE)

2. THE BOARD CONSIDERED THE EVIDENCE IN PARA 3 AND (NAME OF NAVSAFECEN
ADVISOR), MIB NAVSAFECEN ADVISOR, HANDCARRIED THE EVIDENCE TO SAFETY CENTER
ON (DATE), OR THE EVIDENCE WAS MAILED TO THE SAFETY CENTER ON (DATE).

3. THE EVIDENCE THE MISHAP INVESTIGATION CONSIDERED INCLUDED:

A. UNCLASSIFIED, NONPRIVILEGED EVIDENCE

(1) COPY OF OPREP-3, DTG

(2) COPY OF NCIS SUMMARY SHEET DTD

B. UNCLASSIFIED, PRIVILEGED EVIDENCE:

(1) MEMORANDUM FOR THE RECORD: SUMMARY OF INTERVIEW OF SHIP'S
SAFETY OFFICER DTD

C. CLASSIFIED, NONPRIVILEGED EVIDENCE:

(1) COPY OF CIC SOP

D. UNCLASSIFIED, NON-PRIVILEGED DOCUMENTS NOT SENT TO COMNAVSAFECEN:

(1) OPNAVINST 3120.32C

(R)

BT

Appendix A6-G

Sample Message Format
Mishap Investigation Report Endorsements (MIREs)
Report Symbol OPNAV 5102-7A

Use the format and content below for endorsing the mishap investigation report (MIR). Send the endorsement as a naval message.

(Precedence - normally ROUTINE)

FM Endorsing command

TO Subsequent endorsers based on MIR addressees
COMNAVSAFECEN NORFOLK VA//30/054//

INFO NAVSURFWARREN COASTSYSTA PANAMA CITY FL//A41// (LCAC ONLY)

CNO WASHINGTON DC//N7/N76D/N771D/N785/N789E1/N09/N45//

All previous endorsers and other addresses from the MIR (or previous endorsements)

PEO EXW WASHINGTON DC//PMS377// (LCAC ONLY)

ACU FOUR (LCAC ONLY)

ACU FIVE (LCAC ONLY)

FOUO //NO5102//DISTRIBUTE ONLY TO THE COMMANDER OR OFFICE CODE(S) FOLLOWING EACH ADDRESSEE.

MSGID/GENADMIN/MSG ORIG/SER NO./MONTH//

SUBJ/PRIVILEGED FIRST/SECOND ENDORSEMENT ON (name of command involved in mishap) AFLOAT MISHAP INVESTIGATION REPORT (MIR) (REPORT SYMBOL OPNAV 5102-7A)//

REF/A/(Include the original MIR and all previous endorsements.)//

REF/B/DOC/CNO/30AUG01//

NARR/REF B IS OPNAVINST 5100.19D CH-1, NAVOSH PROGRAM MANUAL FOR FORCES AFLOAT. THIS REPORT IS FOR OFFICIAL USE ONLY. THIS IS A PRIVILEGED, LIMITED USE, CONTROLLED DISTRIBUTION, MISHAP INVESTIGATION REPORT ENDORSEMENT. UNAUTHORIZED DISCLOSURE OF THE INFORMATION IN THIS ENDORSEMENT BY MILITARY PERSONNEL IS A CRIMINAL OFFENSE PUNISHABLE UNDER ARTICLE 92, UNIFORM CODE OF MILITARY JUSTICE. UNAUTHORIZED DISCLOSURE OF THE INFORMATION IN THIS REPORT BY CIVILIAN PERSONNEL WILL SUBJECT THEM TO DISCIPLINARY ACTION UNDER CIVILIAN PERSONNEL INSTRUCTION 752. SEE CHAPTER A6 OF OPNAVINST 5100.19D FOR RESTRICTIONS.//

POC/NAME/RANK/COMMAND/LOC:/TEL:/EMAIL//

RMKS/1. Brief description of the mishap based on the MIR and previous endorsements. Include a general statement on the MIB findings and previous endorsements.

2. List each probable cause, rejected probable cause, and recommendation from the MIR and previous endorsements, and your agreement or disagreement with each. For each point of disagreement, identify alternative recommendations or actions and recommended action agency. For each recommendation under your cognizance, report the status and/or your plan of action and milestones for accomplishment.

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R)

3. Provide any amplifying information, additional comments, causes, recommendations, the actions taken or intended by the endorser concerning the mishap.//

BT

Appendix A6-I

SAMPLE MESSAGE FORMAT
MISHAP REPORT (MR)
REPORT SYMBOL OPNAV 5102-6

Use the format and content below to report all reportable mishaps not investigated by an MIB. Submit as much information as is available. Submit supplementary reports as necessary to supply the missing information, when it becomes available. The MR contains privileged information but shall not include the sources of any information.

IF THE REQUESTED DATA DO NOT APPLY, IS NOT RELEVANT TO THE MISHAP, OR IS UNKNOWN, INSERT "NOT APPLICABLE" - "N/A" - or "UNKNOWN" - "UNK," AS APPROPRIATE.

(Precedence - normally ROUTINE)

FM REPORTING ACTIVITY

TO COMNAVSAFECEN NORFOLK VA//30/50/054//
PEO EXW WASHINGTON DC//PMS377//

(LCAC ONLY)

(R)

INFO As desired, directed, or requested by higher authority
NAVSURFWARCEAN COASTSYSTA PANAMA CITY FL//A41//

(LCAC ONLY)

(R)

CNO WASHINGTON DC//N76D/N766D//
ACU FOUR (LCAC ONLY)
ACU FIVE (LCAC ONLY)

(LCAC ONLY)

(R)

UNCLAS //N05102//

(R)

MSGID/GENADMIN/MSG ORIG/SER NO./MONTH//

SUBJ/AFLOAT MISHAP REPORT (MR) (REPORT SYMBOL OPNAV 5102-6)//

REF/A/ (Reference any unit SITREP, CASREP, OPREP 3, concerning the mishap//
USE GENADMIN FORMAT PROCEDURES.

REF/B/DOC/CNO/30AUG01

(A)

NARR/REF/A/ Is the CASREP concerning this mishap. FOR OFFICIAL USE ONLY.
THIS IS A PRIVILEGED, CONTROLLED DISTRIBUTION, SAFETY MISHAP REPORT.
UNAUTHORIZED DISCLOSURE OF THE INFORMATION IN THIS REPORT BY MILITARY
PERSONNEL IS A CRIMINAL OFFENSE PUNISHABLE UNDER ARTICLE 92, UNIFORM CODE OF
MILITARY JUSTICE. UNAUTHORIZED DISCLOSURE OF THE INFORMATION IN THIS REPORT
BY CIVILIAN PERSONNEL WILL SUBJECT THEM TO DISCIPLINARY ACTION UNDER CIVILIAN
PERSONNEL INSTRUCTION 752. SEE CHAPTER A6 OF OPNAVINST 5100.19D CH-1 FOR
RESTRICTIONS.//

POC/NAME/RANK/COMMAND/LOC:/TEL:/EMAIL://

(A)

RMKS/ALPHA (NON-PRIVILEGED):

1. UICs OF MISHAP COMMANDs
2. HULL NUMBER/SIDE NUMBER

30 August 2001

3. TYPE OF MISHAP (For example, flooding, fire, injury, electric shock, collision, grounding, explosion, back injury, chemical or toxic exposure, or equipment damage).

4. LOCAL TIME AND DATE OF MISHAP

5. GEOGRAPHIC LOCATION (Latitude/Longitude or Port If classified, give general area).

6. WEATHER CONDITIONS (For example, temperature, relative humidity, visibility, lighting, ventilation, air quality, wind speed, sea state, current, tide, wind direction, precipitation, lightning, ducting, hurricane, and other).

7. LOCATION WHERE MISHAP OCCURRED (Give workcenter or description of the location. For example, torpedo room; main deck, compartment number, side and frame number, mess decks, flight deck, or 76mm gun magazine).

8. SHIP'S OR CRAFT'S EVOLUTION AT THE TIME OF MISHAP (For example, underway replenishment, mooring, or on-cushion approach to beach).

9. SEA STATE AND DIRECTION (Example: Sea State 3, 340T)

10. SHIP'S EMPLOYMENT (Example: type training (TYT), refit, independent steaming exercises (ISE), maintenance availability, underway, anchored, submerged, or dry-docked).

11. PAYLOAD (Type cargo and load weight) (LCAC ONLY)

A) 12. RISK ASSESSMENT CODE (RAC) (optional)

BRAVO (NON-PRIVILEGED):

1. EQUIPMENT OR CRAFT DAMAGED OR DESTROYED BY THE MISHAP (If applicable, include EIC, TEC, FGC (functional group code), or NSN (if applicable); describe damage). (Example: Screw damage; ABT OOC)

2. ESTIMATED COST TO REPAIR OR REPLACE DOD PROPERTY

Provide the total dollar value, UIC, and name of command having custody of the property (if different from reporting activity) and RUC (reporting unit code) if USMC equipment is involved.

R) To determine the cost of repair or replacement of all DoD property involved in the mishap, use actual cost of materials or estimates provided by the repair activity. If necessary, use estimates based on the actual cost of materials and \$18 for each hour of organizational- or intermediate-level labor or \$60 for each hour of depot-level labor.

3. ESTIMATED COST OF NON-DOD PROPERTY DAMAGE

4. NUMBER OF SCHEDULED OPERATING DAYS LOST

CHARLIE (NON-PRIVILEGED):

1. NAME/SSN/AGE/SEX/RACE/ (Repeat items 1 through 8 with designators 1A,1B, etc, if the mishap involves reportable injuries to more than one person.

2. RANK and DESIGNATOR or RATE and NEC, JOB AND EMPLOYMENT STATUS (Examples of employment status include USN, USNR, USNR-R, other Department of Defense personnel, Navy Federal civil servants, contractors, Foreign Military Exchange personnel, and foreign civilians).

Appendix A6-J

SAMPLE MESSAGE
EXPLOSIVE MISHAP OR CONVENTIONAL ORDNANCE
DEFICIENCY REPORT

(REPORT SYMBOL DD-A&T(AR) 1020 (5102))
(For Class B, C, and less severe reportable mishaps)

1. General. Use format and content below for explosive mishap and conventional ordnance deficiency reports. Submit as much information as is available. Submit supplementary reports as necessary to supply the missing information when available. OMIT ITEMS THAT DO NOT APPLY OR ARE NOT RELEVANT TO THE REPORT. Avoid using "unknown" unless you give the reason for not having the information.

2. Content and Format.

(Precedence - normally ROUTINE)

FM REPORTING ACTIVITY

TO AIG----- (See Appendix A6-K)
CFA (Cognizant Field Activity)

(R)

INFO (See Appendix A6-K)

(R)

UNCLAS FOUO //N08020//

MSGID/GENADMIN/MSG ORIG/SER NO./MONTH//

SUBJ/EXPLOSIVE MISHAP REPORT or CONVENTIONAL ORDNANCE DEFICIENCY
(REPORT/SYMBOL DD-A&T(AR) 1020 (5102) (MIN: CONSIDERED)//

REF/A/DOC/CNO/30AUG01//

REF/(If this is a follow-up message, include the DTG of all previous reports).//

NARR/REF A IS OPNAVINST 5100.19D, NAVOSH PROGRAM MANUAL FOR FORCES AFLOAT.
THIS REPORT IS FOR OFFICIAL USE ONLY. THIS IS A GENERAL USE MISHAP REPORT TO
BE USED ONLY FOR SAFETY PURPOSES AS DEFINED IN CHAPTER A6 OF OPNAVINST
5100.19D CH-1.//

POC/NAME/RANK/PRIMARY PHONE/PRIMARY FREQ/LOCATION/SECONDARY PHONE/SECONDARY
FREQ//

RMKS/PART I
ALPHA:

1. UIC OF REPORTING UNIT (Also list UIC of mishap activity if different from the reporting activity and RUC (reporting unit code) if USMC equipment is involved).

2. REPORT SERIAL NO. (Locally provided sequential number by calendar year).

Appendix A6-J

Enclosure (1)

(3) NATIONAL STOCK NUMBER

(4) DESCRIBE DAMAGE

D. BULK or BATCH EXPLOSIVE MATERIAL INVOLVED (Normally applies to quantities of materials not specifically identifiable by weapon system).

(1) NAME OF EXPLOSIVES

(2) WEIGHT OF EXPLOSIVES

E. ALL OTHER DEPARTMENT OF DEFENSE PROPERTY

F. NON-DOD PROPERTY

2. ESTIMATED COST TO REPAIR OR REPLACE - Provide the total cost to replace or repair all hardware. To determine the cost of repair or replacement of all DoD property involved in the mishap, use actual cost of materials or estimates provided by the repair activity. If necessary, use estimates based on the actual cost of materials and \$18 for each hour of organizational- or intermediate-level labor or \$60 for each hour of depot-level labor.

(R)

A. EXPLOSIVE SYSTEM

B. LAUNCH DEVICE

C. ASSOCIATED HARDWARE

D. ALL OTHER DEPARTMENT OF DEFENSE PROPERTY

E. NON-DOD PROPERTY

F. TOTAL DOLLAR LOSS (Mandatory - Include in supplementary message if all dollar values not initially available).

CHARLIE: REPORTABLE INJURIES

1. EXTENT OF INJURIES OR OCCUPATIONAL ILLNESS (Specify if permanent partial disability or no disability likely. If the mishap involves more than one person, be specific in paragraph CHARLIE about which person is being described. Repeat items 1 through 8 for each person.

2. NAME/SSN/AGE/SEX/

3. RANK and DESIGNATOR or RATE and NEC, GRADE, JOB TITLE AND EMPLOYMENT STATUS (Examples of employment status include USN, USNR, USNR-R, other Department of Defense personnel, Navy Federal civil servants, contractors, foreign military exchange personnel, and foreign civilians).

4. DUTY STATUS (On- or off-duty) and UIC (if different from reporting activity). (If the mishap involves injuries to people from different commands, specify the UIC of each individual, and RUC (reporting unit code) if Marines are involved).

Appendix A6-L

SAMPLE MESSAGE FORMAT
MOTOR VEHICLE SAFETY REPORT
REPORT SYMBOL OPNAV 5102-4 (MVSR)

1. General

Use the following format and content for reporting personnel injuries and deaths and material (property) damage resulting from motor vehicle mishaps. Submit as much information as you have available in the initial report. Submit supplementary reports to supply missing information. Where requested data do not apply, insert "NOT APPLICABLE." Avoid using "unknown" unless you give the reason for not having the information.

2. Content and Format

(Precedence - normally ROUTINE)

FM ACTIVITY SUBMITTING REPORT

TO COMNAVSAFECEN NORFOLK VA//42/40//39/70/054// (R)

INFO As desired, directed, or required by higher authority

UNCLAS FOUO //N05102//

MSGID/GENADMIN/MSG ORIG/SER NO./MONTH//

SUBJ/MOTOR VEHICLE SAFETY MISHAP REPORT (REPORT SYMBOL OPNAV 5102-4) (MV)//

REF/A/CNO/01MAY91//

REF/B/DOC/CNO/30AUG01//

REF/C/ (If follow-up message, refer to all previous reports).

NARR/REF A IS OPNAVINST 5100.12G, ISSUANCE OF NAVY TRAFFIC SAFETY PROGRAM. (R)
REF B IS OPNAVINST 5100.19D CH-1, NAVOSH PROGRAM MANUAL FOR FORCES AFLOAT.
REF C IS (subject of follow-up message). THIS REPORT IS FOR OFFICIAL USE ONLY. THIS IS TO BE USED ONLY FOR SAFETY PURPOSES PER CHAPTER A6 OF OPNAVINST 5100.19D CH-1.//

POC/NAME/RANK/COMMAND/LOC:/TEL:/EMAIL:// (R)

RMKS/1. PER REFS A AND B, THE FOLLOWING INFORMATION IS SUBMITTED:

A. ALPHA. EVENT DATA:

(1) NAME AND UIC (and RUC (reporting unit code) if Marines are involved) OF REPORTING ACTIVITY

(2) LOCAL DATE, TIME, AND DAY OF WEEK MISHAP OCCURRED

(3) GEOGRAPHIC LOCATION (Include city and state and whether on or off Navy property. If on Navy property, give name and UIC of installation where

Appendix A6-O

SAMPLE MESSAGE FORMAT
OFF-DUTY RECREATION, ATHLETICS AND HOME SAFETY (RAHS) MISHAP REPORT
REPORT SYMBOL OPNAV 5102-10

1. General

Use the format shown below for reporting off-duty recreation, athletic and home injuries and deaths. Submit as much of the information as you have available. Submit follow-up reports to provide the missing information. OMIT ITEMS THAT DO NOT APPLY OR ARE NOT RELEVANT TO THE MISHAP. Avoid using "unknown" unless you give the reason for not having the information.

2. Content and Format

(Precedence - normally ROUTINE)

FM REPORTING ACTIVITY

TO COMNAVSAFECEN NORFOLK VA//46/30B/70/054//

INFO As desired, directed, or requested by higher authority

UNCLAS FOUO //N05102// (Or appropriate classification as necessary)

MSGID/GENADMIN/MSG ORIG/SER NO./MONTH//

SUBJ/OFF-DUTY MISHAP REPORT (REPORT SYMBOL OPNAV 5102-10)//

REF/A/DOC/OPNAV/25SEP90//

REF/B/DOC/OPNAV/30AUG01//

REF/C/(If this is a follow-up message, include the DTG of previous reports)

NARR/REF A IS OPNAVINST 5100.25A, NAVY RECREATION, ATHLETICS, AND HOME SAFETY PROGRAM. REF B IS OPNAVINST 5100.19D CH-1, NAVOSH PROGRAM MANUAL FOR FORCES AFLOAT. THIS REPORT IS FOR OFFICIAL USE ONLY. THIS IS TO BE USED ONLY FOR SAFETY PURPOSES PER CHAPTER A6 OF OPNAVINST 5100.19D CH-1// (R)

POC/NAME/RANK/COMMAND/LOCATION/TELEPHONE NUMBER/EMAIL// (A)

RMKS/1. PER REFS A AND B, THE FOLLOWING INFORMATION IS SUBMITTED:

A. ALPHA:

(1) UIC OF REPORTING ACTIVITY

(2) LOCAL DTG OF MISHAP

(3) GEOGRAPHIC LOCATION (Include city and state and indicate if on- or off-base).

(4) LOCATION WHERE MISHAP OCCURRED (For example, home, ball field, or lake. Indicate if MWR facility).

B. BRAVO: REPORTABLE INJURIES

(2) It is necessary to determine if thermal insulation, due to be handled by Ship's force for repair or removal, contains asbestos, prior to the time each repair or removal is to be performed. For non-nuclear propulsion spaces, a sample of the insulation material shall be obtained following the procedures in appendix B1-A, and submitted for analysis.

R)

(3) For nuclear propulsion spaces, a thorough determination for the presence of asbestos prior to initiating thermal insulation shall be conducted. Reliable documentation, such as ship's drawings, work control documents, material history drawings, and prior sample results may be used to determine whether the material to be worked is free of asbestos. If documentation is unavailable, unreliable, or questionable, a sample of the insulation material shall be obtained following the procedures of appendix B1-A and submitted for analysis.

R)

(4) It is impossible to identify asbestos based solely on a visual inspection. Therefore, thermal insulation, especially on ships that were built before 1980, should be handled as if it contains asbestos, unless the insulation material is shown to be asbestos-free by laboratory analysis, or for nuclear propulsion plant spaces by reliable documentation addressed in the preceding paragraph. Ships having asbestos identification capability can provide this laboratory service, to positively identify suspected asbestos-containing materials. Shipyards, Navy Environmental Preventive Medicine Units (NAVENPVNTMEDUs), and medical treatment facilities (MTFs) also have the capability to test materials for the presence of asbestos. Identification by polarizing light microscopy or transfer electron microscopy (TEM) is acceptable.

(5) There are many means of marking asbestos-free thermal insulation. Do not rely on any such systems as positive identification of non-asbestos material.

b. Control of Asbestos in the Workplace

(1) Navy policy is to eliminate asbestos exposure hazards by substitution of ACM with asbestos-free materials, approved under the technical management of the NAVSEASYS COM. The command shall not remove installed ACM, which are in good condition, for the sole purpose of eliminating asbestos. Where substitution is not possible, the command shall use engineering controls or and/or personal protective equipment. The command shall prohibit the use of administrative controls, (e.g. personnel rotation) as a means of keeping the exposure below the permissible exposure limit (PEL).

(2) Specific procedures to control the accumulation of asbestos-laden waste, dust, and scrap materials are found in the individual work protocol standard operating procedures (SOPs) (Appendix B1-B for ship's force, appendix B1-C for Emergency Asbestos Response Team, and appendix B1-D for IMAs).

(3) Warning Signs and Labels

(a) The command shall provide and display warning signs, which comply with reference B1-3, at each location where asbestos work is performed. Post signs at a sufficient distance from the work area that personnel may read the signs and take necessary steps before entering the area. A listing of required protective equipment may be attached to, or be a part of the sign. The warning sign shall state:

CHAPTER B2

HEAT STRESS

BO201. DISCUSSION

a. Heat stress is any combination of air temperature, thermal radiation, humidity, airflow, and workload that may stress the body as it attempts to regulate body temperature. Ships can determine maximum exposure limits for various environmental conditions and individual work rates. Adherence to these maximal heat exposure guidelines can prevent or reduce the adverse physiological effects of heat stress. Additionally, sufficient recovery time in a cool environment will help reverse the harmful effects of heat stress. Heat stress becomes excessive when the body is unable to offset the buildup of internal body heat due to exercise, work activity or environmental conditions. Body temperature will increase if this internal heat buildup cannot be transferred out of the body. This condition can produce fatigue, rash, cramps (particularly in the extremities and abdomen), profuse sweating, dehydration, tingling in the extremities, pallor, rapid heartbeat, severe headache, nausea, vomiting, and poor physical and mental performance in affected personnel. As body temperature continues to rise (due to prolonged exposure), heat injuries (e.g., heat exhaustion or heat stroke) may occur resulting in severe impairment of the body's temperature regulating ability and possible death. Recognizing personnel heat-stress symptoms and obtaining prompt medical attention for affected persons is an all hands responsibility. (R)

b. To obtain accurate and reliable data on heat-stress conditions, ships shall conduct heat-stress surveys to record dry-bulb (DB), wet-bulb (WB), and globe temperature (GT) readings. They must take DB and WB temperature with both thermometers shielded from radiant heat and the WB must also be properly ventilated to determine the effects of airflow. Measurement is accomplished by means of a globe thermometer that provides a value representing radiant and convection heat transfers to or from the body. The Navy uses either a wet-bulb-globe temperature (WBGT) meter or an automated heat stress system (AHSS) to measure each of the above temperatures. Ships use dry bulb, wet-bulb, and globe temperature readings to calculate a single number, the WBGT index. They use the WBGT index, along with the individual's physical exertion level to calculate an individual's permissible heat exposure limit. Appendix B2-A presents this information in a columnar format by means of the Physiological Heat Exposure Limits (PHEL) tables. (R)

c. While heat-stress conditions can occur in practically any space or area on board a ship, machinery spaces, laundries, sculleries, galleys, incinerator rooms, flight decks, and steam catapult rooms are the most likely to have the conditions that may cause heat stress. Causes of heat-stress conditions include operations in hot and humid climates, arduous physical tasks, steam and water leaks, boiler air casing leaks, missing or deteriorated thermal insulation, and ventilation system deficiencies.

In addition, other factors that reduce physical stamina and enhance susceptibility to heat-stress illness are dehydration, lack of sleep, illness, use of medication, drugs, alcohol, and the presence of atmospheric contaminants such as combustion gases or fuel vapors.

d. Heat Acclimatization. In most individuals, appropriate repeated exposure to heat stress causes a series of physiologic adaptations called acclimatization, whereby the body becomes more efficient in coping with the heat stress. An acclimatized individual can tolerate a greater heat stress before harmful level of heat strain occurs. Personnel acquire heat acclimatization only gradually, being fully achieved over a 3-to-4-week level of sustained physical activity. Therefore, unacclimated individuals may increase their risk of incurring acute adverse health effects from exposure to harmful levels of heat stress.

e. This chapter establishes Navy policy and procedures for the control of personnel exposure to heat stress and applies to all ships, including submarines. Ships shall not expose personnel to excessive heat stress and shall provide a shipboard work environment that minimizes the probability of such exposure.

f. This chapter applies to heat-stress control and personnel protection for most shipboard operating conditions. It does not apply for the determination of heat exposure limits specifically for personnel wearing layered or impermeable clothing such as chemical/biological warfare clothing, fire fighting protective clothing or ensemble, or chemical protective clothing (worn for use during clean-up of hazardous material spills) or any type of body cooling garment or device.

B0202. RESPONSIBILITIES

a. The commanding officer shall:

(1) Establish and enforce an effective heat-stress policy that ensures personnel heat exposures are limited per this chapter except in an operational emergency.

(2) Review and initial daily, heat-stress surveys that result in reduced stay times.

(3) Conduct an inquiry into the circumstances surrounding all heat injuries that result in unconsciousness as prescribed in reference B2-1.

(4) Report to the immediate superior in command (ISIC) those material deficiencies, beyond ship's force capability to correct, which contribute to heat-stress conditions aboard the ship.

(5) Report heat-stress related cases as specified in paragraph B0204f.

R) (6) For ships without an Automated Heat Stress System installed, ensure at least two calibrated, working WBGT meters are stowed onboard.

b. The medical department representative (MDR) shall:

R) (1) If an Automated Heat Stress System (AHSS) is installed, maintain and calibrate at least one portable WBGT meter in the event that the automated system should fail.

(2) Review all engineering and non-engineering heat-stress surveys to determine obvious inaccuracies, reduced PHEL stay times, and any personnel protective actions being taken. Submit heat-stress surveys that result in reduced stay times to the commanding officer daily for review.

(3) Provide training to divisions on heat-stress health hazards, symptoms, prevention, and first aid procedures, upon request.

(4) Prepare reports of heat-stress related cases as specified in paragraph B0204f.

(5) **For submarines**, the MDR conducts heat-stress surveys in engineering spaces.

c. The engineer officer/reactor officer shall:

(1) Ensure dry-bulb thermometers are installed per paragraph B0204b(1) and temperatures are monitored and recorded per paragraph B0204b(3) and (4).

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(2) Assign and qualify engineering department personnel to perform heat-stress surveys in engineering spaces.

(3) If an Automated Heat Stress System (AHSS) is installed, maintain and calibrate at least one portable meter in the event that the automated system should fail. (R)

(4) Review heat-stress surveys and ensure stay times for engineering/reactor personnel are being properly determined as specified in paragraph B0205. Limit personnel heat exposures accordingly, except as approved by the commanding officer in an operational emergency.

(5) Record all heat-stress related deficiencies on Current Ship's Maintenance Project (CSMP). Appendix B2-B provides heat-stress trouble-shooting and recommended repair actions.

d. **The supply officer, air boss, and other department heads shall:**

(1) Ensure dry-bulb thermometers are installed per paragraph B0204b(1) and temperatures are monitored and recorded per paragraph B0204b(3) and (4).

(2) May assign and qualify departmental personnel to conduct heat stress surveys of departmental spaces. Qualification of personnel shall be trained as specified in paragraph B0206.b.

(3) Ensure the heat stress surveyor conducts heat-stress surveys per B0204(4) and B0204(5).

(4) Review heat-stress surveys and ensure stay times for personnel are being properly determined as specified in paragraph B0205. Limit personnel heat exposures accordingly, except as approved by the commanding officer in an operational emergency.

(5) Record all heat-stress related deficiencies on CSMP. Appendix B2-B provides heat-stress trouble-shooting and recommended repair actions.

e. **Division officers shall:**

(1) Limit personnel heat exposures per established stay times, except as approved by the commanding officer in an operational emergency.

(2) Record all heat-stress related deficiencies on Current Ship's Maintenance Project (CSMP) for their respective division.

f. **Heat-stress surveyors shall:**

(1) Be qualified per paragraph B0206b

(2) Perform heat stress surveys as required by paragraph B0204.

g. **All hands shall:**

(1) Obtain prompt medical attention for personnel who exhibit heat-stress symptoms.

(2) Follow recommended work practices and procedures for controlling heat-stress hazards.

B0203. HEAT-STRESS ELEMENTS

- a. Monitoring and surveying of heat-stress conditions. (Paragraph B0204).
- b. Establishing safe work schedules in heat-stress environments. (Paragraph B0205).
- c. Investigating and reporting personnel heat injuries. (Paragraph B0204f and chapter A6).
- d. Training. (Paragraph B0206).
- e. Recordkeeping.

B0204. HEAT-STRESS MONITORING AND SURVEYING

a. **Definitions:**

(1) **Monitoring.** Observing and recording temperatures of DB thermometers at specified watch and/or workstations.

- R) (2) **Surveys.** Use of a WBGT meter or AHSS to measure DB, WB, and GT, and compute the WBGT index to determine the amount of time it is safe to work in a given space. Personnel conducting a survey can validate the WBGT index using the following formula:

$$\text{WBGT} = (0.1 \times \text{DB}) + (0.7 \times \text{WB}) + (0.2 \times \text{GT}).$$

(3) **Heat-stress Surveyor.** A trained person assigned to conduct required surveys.

b. **Heat-stress Monitoring:**

(1) **Dry-Bulb Thermometer Positioning.** A hanging DB thermometer (alcohol in glass - NSN 9G-6685-00-243-9964) shall be permanently mounted at watch and workstations throughout the ship where heat-stress conditions may exist. A DB thermometer shall also be mounted in non-air conditioned spaces, not normally manned, in which personnel may have to periodically work or conduct maintenance, such as storerooms. These thermometers shall be mounted in a position so they indicate the most accurate representative temperature for the area where workers/watchstanders spend the majority of their time. Placement of the DB thermometers may be in or out of the ventilation air stream but must be hung at least 2 feet from any supply ventilation terminal/opening. The temperature being measured must be representative of the heat-stress environment workers/watchstanders experience. Thermometers shall be hung with a non-heat conducting material such as plastic or string (never hang with metal wire) and positioned to minimize the influence of any adjacent or local heat or cold sources (avoid direct contact between thermometer and hot/cold structural surfaces). If the difference between the hanging DB thermometer and the DB temperature measured with the WBGT meter, during a survey, is 5°F or greater at any watch or workstation, then the DB thermometer is not representative of the temperature at the workstation. The hanging DB must be relocated, replaced, or validated by aligning the etch mark with the freezing point (32°F). A DB thermometer shall be temporarily mounted to monitor conditions where repairs or maintenance are being performed in a heat-stress area. The ship shall install DB thermometers, at a minimum, in main machinery spaces, (firerooms and enginerooms), auxiliary machinery spaces, emergency diesel spaces and other engineering spaces containing heat sources, as well as

in laundries, dry cleaning plants, sculleries, galleys, bake shops, and steam catapult spaces.

NOTE:

"No Calibration Required" (NCR) stickers are not required to be placed on DB thermometers.

(2) **Automated Monitoring System.** The AHSS units shall be mounted in a position so they indicate the most accurate representative temperature for the area where workers/watchstanders spend the majority of their time. The AHSS units shall be positioned so as to avoid interference with space activity. If ventilation is present at the workstation where an AHSS unit will be installed, then the sensor should be located in relation to the ventilation duct such that airflow to the sensor does not exceed 600 fpm. (R)

(3) **Dry-Bulb Temperature Readings.** The ship shall record DB temperature readings when the ship is underway or when potential heat-stress conditions exist while in port. The ship shall monitor the following compartments when manned: main machinery spaces, (firerooms and engine rooms), auxiliary machinery spaces, emergency diesel spaces, laundry spaces, sculleries, galleys, bake shops, and steam catapult spaces. Assigned personnel shall monitor compartments as follows:

(a) Every 4 hours for manned spaces if DB temperatures do not exceed 85° F

(b) Every hour for manned spaces if DB temperatures exceed 85° F

(c) Every hour at temporary installations where the DB temperature exceeds 85° during repair or maintenance operations.

(4) **Dry-Bulb Temperature Recording**

(a) Hanging DB temperatures shall be recorded on a prepared paper log form and reviewed by the space supervisor (e.g. machinist mate of the watch (MMOW), galley captain). If a DB temperature exceeds the temperature per paragraph B0204c(4)(a), the space supervisor shall circle (in red) the DB reading and immediately notify the watch supervisor (i.e. engineering officer of-the-watch (EOOW), division officer, etc). The watch supervisor shall direct heat-stress surveys to be conducted and enforce the resulting stay times. (R)

(b) The space supervisor (e.g. MMOW, galley captain) shall record and review the DB temperatures for the automated system either as part of the centralized data acquisition system, or as printed copies. The space supervisor shall initial in the appropriate box and check the appropriate notation in the computer log. If a DB temperature exceeds the temperature per paragraph B0204c(4)(a), the space supervisor shall immediately notify the watch supervisor (e.g. engineering officer of-the-watch (EOOW), division officer). The watch supervisor shall direct heat-stress surveys to be conducted and enforce the resulting stay times.

c. Heat-stress Surveys - WBGT Meter

(1) The heat-stress surveyor determines environmental heat-stress conditions using the WBGT meter (Model RSS 220, NSN 7G-6685-01-055-5298 or Heat-Stress Monitor - Model 960, NSN 3H-6665-01-333-2590), or the AHSS which provides a computer display, hard drive storage and printout of the heat stress information. Each method measures dry-bulb, wet-bulb, and globe temperature and integrates them into a single heat-stress value, the WBGT index. Appendix B2-C, Use of the WBGT Meter, provides detailed information and procedures regarding (R)

the proper use and care of the WBGT meter. The surveyor uses the WBGT index, along with the individual's physical exertion level, to determine the permissible heat exposure limits referred to as the Physiological Heat Exposure Limits or PHEL stay times.

NOTE:

- R) The operating range for the RSS-220 and Vista Model 960 WBGT meters is 65°F to 150°F. Use of these meters outside of this range will not provide accurate temperature measurements.

(2) Measurement Techniques

(a) When surveying a work or watch station using the WBGT meter, the surveyor shall position the meter where the worker/watchstander would normally stand or where the intended work is to be performed, with ventilation arranged to provide normal ventilation at that location. For specific operating instructions, see appendix B2-C paragraph 3.

(b) The heat-stress surveyor shall conduct the first WBGT measurement in the workspace after the meter has been in the space 5 minutes to enable it to equilibrate to the surrounding area. The heat-stress surveyor will wait 3 minutes at each subsequent watch or workstation to allow the meter to equilibrate before taking the reading.

(c) Where automated WBGT sensors are used, watchstanders should take care not to shield the automated WBGT sensor from airflow or heat sources so that readings reflect an accurate watchstander stay time.

(3) Recording and Reporting Survey Results:

(a) The heat-stress surveyor shall record all non-automated survey readings to the nearest 0.1°F on a Heat-Stress Survey Sheet similar to the ones found in appendix B2-D. The surveyor shall use the WBGT index reading to determine the PHEL stay time per section B0205. The surveyor shall record the PHEL curve used and the corresponding exposure time on the survey sheet. Upon completion of the survey and determination of PHEL stay times, the heat-stress surveyor shall note any stay times for manned watch or workstations that, under routine conditions, are less than the watch or work period. The surveyor shall circle these readings on the sheet in red. The surveyor shall notify space supervisors and responsible department heads immediately of the reduced exposure times. If a survey results in a PHEL stay time which is less than the work or watch period, the department head responsible for the space shall promptly notify the commanding officer of the condition, indicating action being taken to protect personnel and/or to reduce the excessive heat-stress situation.

(b) The heat-stress surveyor shall print all automated survey readings on a pre-formatted Heat-Stress Survey Sheet. The surveyor shall circle in red, on the Heat-Stress Survey Sheet, any PHEL stay times for manned watch or workstations that, under routine conditions, are less than the watch or work period. The heat-stress surveyor shall notify workspace supervisors and responsible department heads immediately of the reduced exposure times. The department head shall promptly notify the commanding officer of the condition, indicating personnel protective action being taken, and action, if any, to reduce the excessive heat-stress situation.

- R) (c) Ships shall use a Heat-Stress Survey Sheet in a format similar to the one found in appendix B2-D to record heat-stress information. Ships using a database or the AHSS may use a computer printout for the Heat-Stress Survey Sheet. The surveyor shall record the following heat-stress information on the Heat-Stress Survey Sheet manual or computer printout.

1. Date and time of survey
2. In the follow-on survey form identify a time and temperature.
3. Stations surveyed, including the following information for each station:
 - a. Time WBGT measurement was taken at the location
 - b. Hanging DB temperature. Not required for the automated system
 - c. WBGT meter readings for DB, WB, GT and WBGT
 - d. PHEL curve for the station and the corresponding exposure time.

NOTE:

Only the column that pertains to the current watch/work situation needs to be completed (e.g. all four columns do not need to be filled in).

4. WBGT Validation. The heat-stress surveyor shall manually calculate the highest WBGT index obtained using the formula:

$$\text{WBGT} = (0.1 \times \text{DB}) + (0.7 \times \text{WB}) + (0.2 \times \text{GT})$$

The surveyor shall compare calculated WBGT to the meter WBGT and the two readings shall be within 0.2°F. A manual calculation of the WBGT value is not required with the AHSS. (R)

(d) The heat-stress surveyor shall note any material deficiencies that may be contributing to adverse heat-stress conditions and record them on the survey sheet. Additionally, personnel shall comment on the availability of drinking water on the survey sheet.

(e) The surveyor shall record the hanging DB temperatures on the Heat-Stress Survey Sheet. If the difference between the hanging DB thermometer and the DB temperature measured with the WBGT meter, during a survey, is 5°F or greater at any watch or workstation, the DB thermometer is not representative of the temperature at the workstation. Relocate, replace or validate the hanging DB by aligning the etch mark with the freezing point (32°F). Comparing the hanging DB temperature values with the AHSS DB values is not required. (R)

(f) Following the department head's review, all Heat-Stress Survey Sheets, including engineering, shall be delivered to the MDR. The MDR shall review all engineering and non-engineering heat-stress surveys to determine obvious inaccuracies, reduced PHEL stay times, and any personnel protective actions being taken and submit Heat-Stress Survey Sheets daily to the commanding officer. The commanding officer shall initial the survey sheets, and return the sheets to the appropriate department.

(4) Space Surveys. Ships shall conduct the survey of spaces for heat stress using the WBGT meter or the AHSS: (R)

- R) (2) **Hazardous Waste (HW)**. Any discarded, or intended to be discarded, material (liquid, solid, or gas) which meets the definition of HM and/or is designated as a hazardous waste by the Environmental Protection Agency or a State authority.

NOTE:

The Federal Facilities Compliance Act of 1992 states that any HW aboard an operational Navy ship is not subject to the storage, manifest, inspection, or recordkeeping requirements of the Resource Conservation and Recovery Act unless such waste is transferred to the ship within territorial waters of the U.S. and is stored on that ship for more than 90 days.

(3) **Used or Excess Hazardous Material (Used/Excess HM)**. HM for which there is no further, immediate use on board the ship possessing the material. Used HM is material that has been used in a shipboard process. Excess HM is unused material in full, properly sealed containers. Such material may ultimately be used on another ship, within the shore establishment, for a purpose other than that for which it was initially manufactured, or by commercial industry. Ships are required to transfer used or excess HM to a Navy shore activity for determination of suitability for further use. Navy shore activities possess trained personnel who can determine, working with ship's personnel, whether shipboard HM is usable, reusable, or should be disposed of as HW. The shore activity will act as the HW generator if it determines that the material has no further use and dispose of it as required by Federal, State, and local regulations.

B0302. SURFACE SHIP HMC&M

a. **Responsibilities**

(1) **The Commanding Officer shall:**

(a) Report to the Fleet Commanders by message, information to the chain of command, any conditions or system/equipment malfunctions that results in an overboard discharge of HM within restricted waters per reference B3-2 and applicable Operations Orders (OPORDs).

(b) Appoint a commissioned officer within the supply department as HM coordinator. On surface ships smaller than a frigate, appoint a commissioned officer as HM coordinator. Ships and afloat activities specifically designated by the Type Commander in which the number of assigned officers is limited and appointment would pose an excessive burden to the ship may assign a chief or leading petty officer as HM coordinator.

(2) **Division officers shall:**

(a) Ensure that NAVSEA-approved, in-space storage lockers are used.

R) (b) Ensure that HM retained within their workcenters is specific to the operations and maintenance of assigned equipment. If a Hazardous Material Minimization Center (HAZMINCEN) is in operation, no more than a 7-day supply of HM issued by the HAZMINCEN to the workcenter may be retained in workcenter spaces.

(c) Ensure used or excess HM issued by the HAZMINCEN is properly returned to the HM supervisor/HAZMINCEN.

(g) Ensure that when HM is transferred into other containers, the new containers are properly marked with the information specified in paragraph C2302e. The requirement to transfer HM into other containers shall be limited to HM specific to the division. Where possible, HM shall be obtained from the HAZMINCEN in containers sized to the user's need.

b. **Hazardous Material Control and Management Elements.** The following elements are essential for effective surface ship HM control and management:

- (1) Designation of adequate storage for HM (see chapters C23 and D15) (R)
- (2) Controlling HM purchase (including type and quantity of material required), receipt, and issue to avoid accumulation of excessive HM (see chapter C23)
- (3) Following approved safety standards for the use of HM (see chapters B1, B8, B10, and C23 for specific HM use requirements)
- (4) Reutilization of HM to reduce the amount of used HM generated (see chapter C23)
- (5) Collecting, segregating, and disposing of used or excess HM (see chapter C23)
- (6) Responding to HM emergencies (see B0302c)
- (7) Obtaining and providing MSDSs for on board HM (see chapter C23)
- (8) Training (see B0302e)
- (9) Proper labeling of HM (see chapter C23).

c. **HM Emergency Response.** The DCA shall use appendices B3-A and B3-B as HM spill response procedures in preparation for possible HM spills or releases to the environment. These plans include information on spill response team makeup, spill cleanup equipment location, internal and external spill reporting criteria, as well as procedures that are unique to the ship. Reporting requirements for a HM spill which goes over the side are found in reference B3-2, chapter 19. Appendix B3-B is specific to mercury.

d. **HM Information**

(1) **MSDS.** MSDSs are technical bulletins containing information about materials, such as composition, chemical, and physical characteristics, health and safety hazards, and precautions for safe handling, use, and disposal. MSDSs shall be maintained for every item of HM aboard either through the HMIS (see paragraph B0302d(2)) or by hard copy for open purchased items. They shall be readily accessible to supervisors and personnel who actually use or handle HM. Supervisors are required to provide instruction in MSDS understanding and use. All personnel using HM shall be trained on the dangers and precautions contained within the MSDS before they actually use those materials. (R)

(2) **Hazardous Material Control and Management (HMC&M) Compact Disc-Read Only Memory (CD-ROM).** The HMC&M CD-ROM is a Navy data application which contains the HMIS, Ships' Hazardous Material List (SHML), and the Shipboard Safety Equipment Shopping Guide. The HMIS is a compilation of MSDS data applicable to DOD. If a MSDS is not available for material provided to the ship for use, the HMIS shall be scanned to determine if such data are resident within it. Chapter C23 contains storage requirements and coding found on some items listed in HMIS. The HM supervisor shall maintain the HMIS. Ensure that only the most current version is used.

(4) Audiovisual materials applicable to HM can be found in appendix A7-F.

B0303. SUBMARINE HMC&M

a. Responsibilities

(1) The Commanding Officer shall:

(a) Report all HM mishaps as required by chapter A6.

(b) Report to the Fleet Commanders by message, information to the chain of command, any conditions or system/equipment malfunctions that results in an overboard discharge of HM within restricted waters per reference B3-2 and applicable Operations Orders (OPORDs).

(c) Ensure that spills of HM are handled per the Ships System Manual (SSM) Toxic Gas Bill.

(2) The executive officer shall:

(a) Grant written permission to carry or use on board any restricted HM during an underway period. Refer to chapter D15 and reference B3-1 for definitions of submarine material control usage categories.

(b) Ensure assigned personnel follow the conditions under which restricted or limited HM are stored or used on board to minimize the release (off-gassing, mists, or vapors) of potential atmospheric contaminants into the submarine.

(c) Review the Submarine Material Control Log prior to each underway operation of 24 hours or greater, conducted in the recirculation mode, to ensure that restricted (R) items have been removed from the submarine.

(3) Department heads shall:

(a) Ensure that HM retained within their work centers is unique to the operations and maintenance of assigned equipment and does not exceed the quantity needed to satisfy operational requirements.

(b) Ensure used or excess HM is properly returned to the Supply Officer for turn over to the shore activity.

(c) Report all items found with a restricted (R) or limited (L) use code that have not been logged in the Submarine Material Control Log to the Supply Officer for logging, labeling, and assignment of approved storage location, or disposal. (R)

(d) Report all items found that are not listed (categorized) in the Submarine Material Control List (SMCL) to the Supply Officer. Items not listed in the SMCL are prohibited per paragraph D1502(a). (A)

(e) Obtain written permission from the executive officer to retain on board or use restricted items during underway operations.

(f) Ensure that restricted items authorized for in port use only are removed from the submarine as soon as the need for them no longer exists. Inform the Supply Officer of their removal to allow documentation in the Submarine Material Control Log.

(g) Ensure that all HM in their custody are used, handled, and stowed per the requirements of chapter D15.

(4) **The supply officer/HM coordinator shall:**

(a) Ensure that management of shipboard HM follows procedures outlined in this chapter and chapter D15.

R) (b) Ensure an MSDS is on file (either hard copy or on CD-ROM) for all types and brands of HM taken aboard. Ensure that hard-copy MSDSs are readily accessible to personnel and their supervisors. Maintain the Submarine Hazardous Material Inventory and Management System (SHIMS) which contains MSDS information as outlined in paragraph B0303d(1)). Retain hard copies of MSDSs which are not on the SHIMS system to Naval Surface Warfare Center, Carderock Division, Code 632.

(c) Ensure no prohibited HM is brought on board.

(d) Maintain the Submarine Material Control Log per paragraph D1502d.

R) (e) Ensure all HM brought on board is authorized for storage and use onboard by the Submarine Material Control List (SMCL). Affix an Atmosphere Contaminant Tag (Appendix D15-C) for any material that is a restricted (R) or limited (L) HM.

(f) Initiate an investigation of any item suspected of being an atmosphere contaminant per the procedures of reference B3-1 and submit a SMCL feedback report per chapter D-15.

(g) Ensure that all restricted (R) and limited (L) items are inventoried every 6 months or prior to a change of command.

(h) Review the Submarine Material Control Log weekly in port and monthly underway.

(i) Obtain commanding officer's written authorization prior to open purchasing any HM.

(5) **The MDR shall:**

(a) Assist work center supervisors in training personnel regarding health information and personal protective equipment requirements for the HM they are using.

R) (b) Provide medical assistance in the event of a HM spill or mishap involving HM. Use MSDS information in SHIMS provided by the Supply Officer.

(6) **Division Officers shall:**

(a) Ensure when HM is transferred into other containers the new containers are properly marked with the information specified in paragraph D1502d.

(b) Ensure approved personal protective clothing and equipment are available for HM operations or incidents and personnel are trained in their proper use and maintenance.

(c) Ensure personnel are made available to receive required HM training as detailed in section B0303e.

(d) Mark any PCB-containing electrical or electronic components per chapter D15.

(7) **The Damage Control Assistant shall:**

(a) Train and supervise ship's damage control efforts to combat HM spills. Conduct HM spill response drills as necessary.

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(b) Provide training to divisions regarding reporting, initial handling, and cleanup of HM spills, as requested.

(c) Maintain an OTTO FUEL spill kit (AEL A006350027) to respond to HM emergencies.

(d) Hazardous material emergency response shall be conducted per the Toxic Gas Bill. The DCA shall follow the Toxic Gas Bill in preparation for possible HM spills or releases to the environment. Reporting requirements for a HM spill which goes over the side are found in reference B3-2, chapter 19.

(8) Repair parts petty officers shall ensure before HM is ordered, that a valid requirement (specifically required by a maintenance procedure or other shipboard operation) exists. Standard stock HM shall be used whenever possible to avoid procurement of open purchased HM.

(9) Workcenter supervisors shall:

(a) Ensure that approved personal protective clothing and equipment are maintained and utilized.

(b) Ensure that prior to using or handling any HM, workcenter personnel have been trained on the hazards associated with that material and are familiar with what an MSDS is, what it contains, and where a copy is available for review.

(c) Ensure that a valid maintenance requirement exists for any HM item not listed in the SMCL and initiate a SMCL feedback report.

(10) All hands shall:

(a) Ensure that HM is returned to appropriate stowage upon completion of use or at the end of the workday, whichever is earlier.

(b) Follow instructions provided for the proper use of HM.

(c) Collect and segregate any used HM for proper offload per chapter D15.

(d) Report any spills of HM to the Duty Officer (in port) or the Chief Of the Watch (underway).

(e) Report any violation of HM use, storage, and handling precautions to the supervisor for resolution/correction.

(f) Be alert to prevent the onboard storage and use of restricted material during underway operations without prior approval/authorization from the Executive Officer. Ensure limited material is being used per SMCL guidance. (R)

b. Hazardous Material Control and Management Elements. The following elements are essential for effective submarine HM control and management:

(1) Proper use of HM per SMCL guidance (see chapter D15)

(2) Designation of adequate storage for HM (see chapter D15)

(3) Controlling HM purchase (including type and quantity of material required), receipt, and issue to avoid accumulation of excessive HM (see chapter D15)

- (4) Avoiding open purchases of HM (see chapter D15)
- (5) Following approved safety standards for the use of HM (see chapters B1, B3, B10 and D15 for specific requirements on use of HM)
- (6) Reutilization of HM to reduce the amount of used HM generated (see chapter D15)
- (7) Collection, segregation, and disposal of used or excess HM (see chapter D15)
- (8) Responding to HM emergencies (see B0303c)
- (9) Obtaining and providing MSDSs for on board HM (see chapter D15)
- (10) Training (see B0303e)
- (11) Proper HM labeling (see chapter D15)

c. **HM Emergency Response.** Hazardous material emergency response shall be conducted per the Toxic Gas Bill. The DCA shall follow the Toxic Gas Bill in preparation for possible HM spills or releases to the environment. Reporting requirements for a HM spill which goes over the side are found in reference B3-2, chapter 19.

d. **HM Information**

- A) (1) **The Submarine Hazardous Material Inventory and Management System (SHIMS).** SHIMS is a menu driven HM inventory and management tool for use aboard submarines. SHIMS allows submarines to be in full compliance with this instruction.. It assists the operator in the systematic, positive control and management of HM. SHIMS provides:
- (a.) A standardized tool to assist in submarine HMC&M compliance, inventory management, and shelf-life management;
 - (b.) A standardized tool to implement submarine atmospheric control requirements;
 - (c.) A single data source for SMCL and MSDS information;
 - (d.) Standard reports, references and output that meet requirements of this instruction and references B3-1, B3-2 and B3-4.
- (2) **MSDS.** MSDSs are technical bulletins containing information about materials, such as composition, chemical, and physical characteristics, health and safety hazards, and precautions for safe handling, use, and disposal. MSDSs shall be maintained for every HM item aboard either through SHIMS or by hard copy for open purchased items. They shall be readily accessible to supervisors and personnel who actually use or handle HM. Supervisors are required to provide instruction in MSDS understanding and use. All personnel using HM shall be trained on the dangers and precautions contained within the MSDS before they actually use those materials.
- R) (3) **Hazardous Material Control and Management (HMC&M) Compact Disc-Read Only Memory (CD-ROM).** The HMC&M CD-ROM is a Navy data application which contains the HMIS, SHML, and the Shipboard Safety Equipment Shopping Guide. The HMIS is a compilation of MSDS data applicable to DOD. If a MSDS is not available for material provided to the ship for use, the HMIS shall be scanned to determine if such data are resident within it. The supply officer shall

maintain the HMIS. Ensure that only the most current version is used.

(4) **CNO Policy Guide for Shipboard Hazardous Material Container Disposal (OPNAV Publication P-45-114-95)**. This publication provides guidance on the disposal of containers that formerly held HM. The guidance document provides a simple decision flow chart to assist the user in rapidly determining whether a HM container is an "empty container" and if it is, whether it may be disposed of as trash or as used HM.

(R)

(5) **The Submarine Material Control List (SMCL)**. The SMCL is a Navy data application that lists the authorized HM for use on submarines as established by reference B3-1.

(R)

e. **Training**

(1) The HM coordinator receives en route training at the Navy Supply Corps School Basic Course (A-8B-0008).

(2) The leading SK shall be a graduate of the HMC&M Technician (SNEC 9595) course (A-322-2600).

(3) Personnel expected to combat an emergency involving HM shall receive training on HM emergency procedures.

(4) Audiovisual materials applicable to HM can be found in appendix A7-F.

CHAPTER B3

REFERENCES

- | | |
|------|--|
| B3-1 | NAVSEA Manual S9510-AB-ATM-010(U), Nuclear Submarine Atmosphere Control Manual (NOTAL) |
| B3-2 | OPNAVINST 5090.1B, Environmental and Natural Resources Program Manual (NOTAL) |
| B3-3 | NAVSEA S593-A1-MAN-010, Shipboard Management Guide to PCBs (NOTAL) |
| B3-4 | Submarine Supply Procedures Manual, COMSUBLANT/COMSUBPACINST 4406.1E |

(A)

(c) Perform a positive and negative respirator facepiece seal check prior to each use per paragraph B0607b.

(d) Report any malfunction of the respirator to their immediate supervisor.

(e) Prevent damage or loss of respiratory protective equipment.

f. **Procedures**

(R)

(1) Upon determination that planned work will require respiratory protection, supervisors shall assign personnel to perform the work. Those personnel who have not been previously assigned to work requiring respirator use shall be sent to the MDR for medical clearance qualification.

(2) The MDR shall complete the medical qualification using appendix B6-A or shall send the individual to the squadron medical officer for such qualification. Appendix B6-A and B6-D can be adapted onto a SF-600 for inclusion in the health record.

(3) Medically qualified personnel shall report to the tender/ submarine base for respirator issue. Those personnel who do not have a current (within 1 year) record of fit testing/training shall be fit-tested and trained by the respirator issuing facility according to the guidelines of paragraph B0612, prior to such issue. All personnel shall receive the following training prior to each issue:

- (a) Respirator inspection procedures
- (b) Positive and negative facepiece seal checks
- (c) Respirator/cartridge service life
- (d) Warning signs of respirator failure.

Respirators/cartridges shall be issued for the duration of the job.

(4) Upon completion of work, disposable respirators shall be disposed of; non-disposable respirators shall be returned to the supplying activity.

g. **Training.** Department heads, division officers, leading petty officers, and the MDR shall be trained annually on the recognition of work requiring respirators, respiratory protection procedures, and the proper use of respirators.

(R)

CHAPTER B6

REFERENCES

- B6-1 29 Code of Federal regulations (CFR) 1910.134, Respiratory Protection (NOTAL)
- B6-2 NAVSEA S9213-33-MMA-000/V, Radiological Controls for Ships.
- B6-3 American National Standards Institute (ANSI) Z88.2-1992, Practices for Respiratory Protection. (Adopted by the Department of Defense and available from the Department of Defense Single Stock Point (DoD SSP) in

CHAPTER B7

ELECTRICAL SAFETY

B0701. DISCUSSION

This chapter provides guidance to assist in the identification of electrical hazards, and to prevent mishaps that could cause injuries and extensive damage to shipboard equipment and may compromise the ship's mission capabilities. Reference B7-1, chapter 300 is the primary reference for detailed technical guidance on electrical hazards and the potential for electric shock. Work involving electric tools, equipment and systems is inherently dangerous. Always use the principles of operational risk management (ORM) when dealing with electricity. Details of ORM are found in reference B7-2.

B0702. RESPONSIBILITIES

a. The commanding officer shall authorize all work on energized equipment per reference B7-1.

b. The safety officer shall:

(1) Ensure electrical/electronic indoctrination training is provided for all newly reporting personnel per paragraph B0708. Coordinate with the electrical officer/electronics material officer to provide this training.

(2) Complete training per B0708d.

c. The electrical officer/electronic maintenance officer shall:

(1) Establish an electrical tool issue room per B0707.

(2) Ensure that applicable maintenance and repair is conducted per reference B7-3. (R)

(3) Ensure that the on-board CPR instructor is certified per B0708.

(4) Ensure that all electrical tools/equipment received on board are authorized for shipboard use. Reference B7-1 contains guidance on determining suitability for shipboard use.

d. The supply officer shall ensure that all electrical tools/equipment received on board are turned over to the electrical tool issue room (electrical division for submarines) for a safety inspection prior to issue.

e. Division officers shall:

(1) Ensure that assigned personnel are trained per paragraph B0708.

(2) Ensure that all portable electrical equipment is visually inspected prior to use, and is electrically safety checked quarterly. Reference B7-1 (paragraph 300-2.7) contains detailed technical guidance on portable electric equipment.

(3) Ensure that all personal electrical/electronic equipment is authorized for shipboard use. Reference B7-1 contains guidance on

e. Housekeeping items such as vacuum cleaners and floor buffers need not be retained in the electrical tool issue room.

f. Unsafe electrical tools should be clearly marked "OOC", be rendered incapable of being energized, and be kept in locked storage separate from the other tools. The only exceptions should be for those tools in which immediate repair is to be accomplished.

B0708. TRAINING

a. All personnel, when reporting aboard, shall receive indoctrination on basic electrical safety, including the requirements regarding use of personal protective equipment. Reference B7-1 may be used as a source of training material. The training shall also include recognizing symptoms of electrical shock, electrical shock trauma, and emergency first aid responder techniques.

b. Each ship shall have a certified American Red Cross/American Heart Association CPR instructor on board. At least 50 percent of all electrical/electronics associated ratings shall be certified in basic life support.

c. Personnel who man the portable electrical tool issue room shall complete the Electrical Tool Issue Room Watchstation 302 in the Safety Programs Afloat Personal Qualifications Standard (PQS), NAVEDTRA 43460-4A.

d. The safety officer shall complete watchstation 304 of the Safety Programs Afloat PQS within 16 weeks of assignment.

CHAPTER B7

REFERENCES

B7-1 Naval Ship's Technical Manual (NSTM) chapters 300, 302, 310, 313, 320, 330 and 400 (NOTAL)

B7-2 OPNAVINST 3500.39, Operational Risk Management (NOTAL)

R) B7-3 NAVSEA S0400-AD-URM-010/TUM, "Tag-Out User's Manual"

CHAPTER B9

RADIATION SAFETY

B0901. DISCUSSION

a. This chapter outlines policies and procedures designed to minimize personnel exposure to radiation from sources other than nuclear power systems and nuclear weapons that have their own radiation protection and control programs. Per paragraph A0103b, the Director, Naval Nuclear Propulsion Program is responsible for the control of radiation and radioactivity associated with naval nuclear propulsion plants. As such, the requirements of this chapter do not apply to the Naval Nuclear Propulsion Program. Issues concerning radiation and radioactivity associated with naval nuclear propulsion plants should be addressed via the chain of command. This chapter also excludes those individuals, who as patients, must undergo diagnostic or therapeutic procedures

b. Radiation is commonly divided into two categories: ionizing and non-ionizing. Radiation, with sufficient energy to strip electrons from atoms in the media through which it passes, is known as ionizing radiation. Less energetic radiation incapable of such electron stripping is termed non-ionizing radiation. Potentially hazardous sources of radiation exist aboard Navy ships. Ionizing radiation sources include radioactive material and x-ray generating equipment, while lasers, radar, and communications equipment emit non-ionizing radiation.

(R)

B0902. RESPONSIBILITIES

a. The commanding officer shall:

(1) Appoint laser systems safety officer (LASSO) and radiological systems safety officers, as needed, and ensure that they are properly trained per references B9-1 and B9-2.

(R)

(2) Request a radiation hazard (RADHAZ) survey when:

(a) Emitter systems have been added, relocated, or upgraded as a result of scheduled SHIPALT or ALT installation since the last RADHAZ survey.

(b) Watchstations or work areas are moved or established in the proximity of emitter systems.

(c) Gasoline storage or transfer stations are relocated in the proximity of emitter systems.

(d) Personnel are injured as a result of exposure to radio frequency radiation (RFR) and the command requires assistance in re-evaluating the current RADHAZ survey.

(e) The current RADHAZ survey was conducted prior to 1995.

(3) Submit a confirmation letter to COMNAVSEASYS COM (Code SEA 05K2B), stating that the recommended control measures provided in the Hazards of Electromagnetic Radiation to Personnel (HERP) survey report have been implemented to obtain a NAVSEASYS COM letter of certification, per reference B9-3.

Enclosure (1)

(4) Ensure mishaps and incidents involving radiation are investigated and reported per the governing references listed in paragraph B0903. If a mishap report is required, use chapter A6 for guidance.

b. Division officers responsible for workcenters and areas with identified radiation hazards shall:

(1) Ensure radiation (ionizing, RF, and laser) hazard areas are posted with the appropriate warning signs and deck markings.

(2) Ensure that personnel receive medical surveillance as identified in the baseline industrial hygiene.

c. Leading petty officers and duty section leaders shall provide awareness and hazard recognition training for all personnel assigned to work or stand duty in RADHAZ areas to prevent accidental exposure.

B0903. GUIDANCE

a. Ionizing Radiation

R) (1) **Industrial Radiography**. Sources of ionizing radiation are used onboard tenders and in shipyards for non-destructive testing (NDT) of materials. X-ray machines are used on carriers for NDT procedures conducted on aircraft. The ship's radiological safety officer (RSO) is responsible for all aspects of the program described in the governing instructions.

(a) **Governing Instructions**. NAVSEA S0420-AA-RAD-010 (Reference B9-2)

(b) **POC**. NAVSEADET Radiological Affairs Support Office (RASO).
COMM: (757) 887-4692 DSN: 953-4692 FAX: (757) 887-3235

R) (2) **Medical Radiography**. Medical and dental x-ray facilities must be surveyed every 2 years by a Radiation Health Officer (RHO). The medical officer shall request the survey from the nearest medical activity with a RHO or contact the Navy Environmental Health Center (NAENVIRHLTHCEN), Radiation Health Team.

(a) **Governing Instructions**. BUMEDINST 6470.22 (Reference B9-1)

R) (b) **POC**. Radiation Health Team, Navy Environmental Health Center (NAENVIRHLTHCEN), 2510 Walmer Avenue, Norfolk, Virginia, 23513-2617, DSN: 253-5575. Commercial: (757) 462-5575. FAX: (757) 444-3672.

b. Non-Ionizing Radiation

(1) **Radiofrequency (RF) and Microwave Radiation**. Radar and communications equipment (transmitters) and RF heat sealers may emit hazardous levels of RF/microwave radiation. In addition to causing biological changes, RF/microwave radiation can induce electrical currents/voltages that may cause shocks and burns, premature activation of electro-explosive devices (EEDs) in ordnance, and arcs, which may ignite flammable materials.

(a) **Radar and Communications**. Information on the hazards of electromagnetic radiation to personnel, fuels, and ordnance is available in reference B9-4, Volume I for Hazards of Electromagnetic Radiation to

(2) POC

(a) Laser Related Weapons Systems and Certification of Laser Firing Ranges. Naval Surface Warfare Center, Dahlgren, Virginia, 22448, DSN: 249-8171, Commercial: (703) 663-8171.

R) (b) For Medical and Industrial Laser Operations. Bureau of Medicine and Surgery (BUMED) (MED-212), 2300 E Street NW., Washington, DC 20372-5300, DSN: 762-3448. Commercial: (202) 762-3448. Fax: (202) 762-0931.

d. Radioactive Materials, Not Otherwise Classified

(1) The small quantities, specific activity, and physical form of radioactive materials used aboard ships usually make them non-hazardous. However, breakage and spread of even small quantities of some radioactive materials can lead to internal contamination (by ingestion, inhalation or wound contamination) in excess of allowable limits. Therefore, report all incidents of suspected or real contamination through the cognizant MDR per reference B9-8.

(2) Luminous markers, clocks, smoke detectors, compasses, depth gauges, and electron tubes may contain small quantities of radioactive material. The evaluation of such items shall consist of a simple inspection for physical damage.

(3) Some aircraft and missile construction material contains magnesium-thorium alloys. Altering this material through cutting or grinding by ship crewmembers is prohibited. Thorium containing welding rods are exempt from radioactive material permitting.

NOTE:

Tenders holding a Navy Radioactive Materials Permit may alter these materials per reference B9-9.

(4) Depleted uranium is used as penetrators in some munitions. All warship classes, which stow depleted uranium munitions, has been evaluated by COMNAVSEASYS COM to ensure that personnel occupying spaces immediately adjacent to the munitions storage compartment are not exposed to radiation levels exceeding that allowed for the general population.

B0904. RADIATION HAZARD AREAS

a. Ionizing Radiation. This chapter provides specific guidance for delineating ionizing radiation hazard areas for weapons and radiographic sources. The type and wording of each sign is dependent upon the type of radiation area. Reference B9-8, section 7-4 provides specific guidance for posting ionizing radiation hazard areas. Medical x-ray units will be posted per reference B9-8.

b. RFR Hazard Areas. RFR hazard warning signs are required at all access points to areas where the RFR levels may exceed the PEL. Obtain NAVSEA-approved warning signs and labels through the standard stock system (see appendix B9-A). When military operational considerations prevent the posting of such signs, a waiver must be obtained from cognizant occupational health and safety professionals depending upon the RFR source. Where the RFR levels may exceed 10 times the PEL, additional warning devices and controls such as

(a) For each exposure incident which is five times the PEL or greater.

(b) There is injury to personnel or personnel demonstrate physical symptoms believed associated with RF exposure.

(c) Inadvertent exposure occurred to members of the general public or to other noninvolved personnel as a result of naval operations that exceeded the appropriate controlled PEL.

A) (d) If exposure incident requires service member to miss five working days, a mishap report must be submitted in accordance with chapter A6.

c. **Laser Radiation (Specific Actions Described in Reference B9-11)**

(1) If an eye injury is suspected or observed from exposure to laser radiation, medical examination by an ophthalmologist or optometrist is required within 24 hours of the exposure if operational requirements allow or as soon as possible.

(2) Submit a report of the exposure incident to the BUMED (MED-212) within 30 days of the incident, with the following information as a minimum:

(a) List of personnel involved

(b) Estimation of exposure(s) as related to the applicable PEL

(c) Details of immediate and subsequent medical findings

(d) Narrative account/summary of exposure incident—to include wavelength, mode of operation(s) and energy/power output

(e) Details regarding safety procedures and equipment used.

A) (3) If exposure incident requires service member to miss five working days, a mishap report must be submitted in accordance with chapter A6.

CHAPTER B9

REFERENCES

- B9-1 BUMEDINST 6470.22. Navy Radiological Systems Performance Evaluation Program, 18 Apr 00
- B9-2 NAVSEA S0420-AA-RAD-010. Radiological Affairs Support Program (RASP) Manual, 01 Oct 91 (NOTAL)
- B9-3 NAVSEA S9040-AA-GTP-010/SSCR, Shipboard Systems Certification Requirements for Surface Ship Industrial Periods (Non-Nuclear), Revision 3 of Jun 90 (NOTAL)
- B9-4 NAVSEA OP 3565/NAVAIR 16-1-529/NAVELEX 0967-LP-624-6010. "Electromagnetic Radiation Hazards (Hazards to Personnel, Fuel, and other Flammable Material)" (NOTAL)
- B9-5 DoD Instruction 6055.11. Protection of DoD Personnel from Exposure to Radiofrequency Radiation of 20 August 86 (NOTAL)
- B9-6 SPAWARINST 5100.12B. Navy Laser Radiation Hazards Prevention Program (NOTAL)